and the rapid increase of the area of dulness, displacement of the apex beat to the right, as well as a marked bulging of the lower intercostal spaces, left no doubt of the existence of empyema The symptoms indicating the presence of this complication were so evident that it was not deemed necessary to resort to an exploratory puncture to verify the diagnosis

In all of the cases of pneumonia complicated by empyema that came under my personal observation, the disease pursued a very similar course to the one described The clinical symptoms were characterized by their severity The patient's general condition left little doubt as to the septic nature of the original disease As in the case detailed, the suppurative pleuritis commenced two to three days after the pneumonic symptoms had subsided, its onset being announced by a rise of temperature and the appearance of local and general symptoms, suggestive of the existence of a suppurative affection

It is more than probable that in most of these cases the pyogenic microbes, which eventually attacked the pleura and caused the suppurative process, entered the lungs at the same time and in the same manner as the microbes which caused the pneumonia The bronchitis and diarrhea which initiated the disease were plain evidences pointing in this direction In some of the cases in which the pneumonia pursued a more typic course, the subsequent suppurative pleuritis was caused by a secondary mixed infection All cases of empyema which were subjected to operative treatment were characterized pathologically by the presence of an abundant fibrinous exudate, which covered both the visceral and parietal pleuræ, and, in the form of large fibrinous masses, mixed with the thick cream-like pus The purulent accumulation occurred rapidly, filling the pleural cavity in a very few days Displacement of the heart, enlargement of the chest and bulging of the intercostal spaces were the most significant local signs indicating the presence of a large quantity of pus in the cavity of the chest The right and the left sides were affected with about the same frequency In one case the pleuritis was limited, leading to a circumscribed empyema in the left side The abscess occupied the lower and posterior part of the chest In performing the radical operation in this case, a section of the tenth rib, about three inches from the spinal end, had to be excised The location of the empyema was determined beforehand by systematic exploratory punctures, the first two punctures yielding negative evidence As a rule, expansion of the compressed lung followed soon after the operation, showing that resolution had occurred before or after the pleuritic complication appeared

In some of the cases suppuration was scanty after the operation, in others it was abundant In the former event a process of repair set in promptly, in the latter case it was retarded The final process of obliteration of the pleural cavity was accomplished by granulation, cicatrization and cicatricial contraction Evacuation of the pus and drainage were always followed by a fall in the temperature to normal, or nearly so, accompanied by symptoms denoting rapid improvement of the patient's general condition In two of the cases the physicians in attendance were misled in their diagnosis by the absence of fever The pleuritis was initiated as usual by a rise in temperature and other febrile disturbances, which subsided in a few days, the patients feeling well with the exception of the complaint of embarrassment of the respiration In one case the respiration was so much interfered with by the copious pleuritic exudate that the lips were blue and the pulse almost imperceptible —conditions which necessitated the performance of the operation without an anesthetic We relied in this case on strychnia and whiskey to counteract the immediate effects of the operation In the absence of such contraindications ether was used as an anesthetic, aided by the administration of some heart stimulants immediately before the administration of the anesthetic

OPERATION FOR EMPYEMA

The existence of an empyema in the adult is a sufficient indication for the performance of a radical operation Puncture and removal of the pus by aspiration may succeed occasionally in mild cases of suppurative pleuritis in the case of children, seldom, if ever in the adult Operative treatment should be instituted as soon as a diagnosis can be made Unless the signs and symptoms are conclusive, the diagnosis should be verified and the pus accurately located by an exploratory puncture, as was done in most of the cases operated upon in Camp Thomas Nothing is gained and much is lost by postponing surgical treatment until the accumulated pus has increased to the extent of producing serious and often irremediable compression of the lung on the affected side The plastic exudate, which is often copious, as in all the cases forming the basis for this address, is another source of danger in case the operation is not promptly performed, as it creates conditions unfavorable to the subsequent expansion of the compressed lung and extenuates indefinitely the infection

In view of the pathologic anatomy presented by the cases of empyema which constitute the basis for this paper, it must be admitted that the only rational treatment consists in opening the pleural cavity freely and in establishing efficient tubular drainage Intercostal incision and drainage do not enable the surgeon to remove the large fibrinous masses which play such an important rôle in maintaining suppuration and in preventing speedy obliteration of the pleural cavity The fibrinous exudate contains pus microbes, and unless removed at the time the operation is performed, serves as a nutrient medium for their growth and reproduction and interferes mechanically with pulmonary expansion and speedy obliteration of the pleural cavity by granulation and cicatrization One of the important modern indications in the surgical treatment of empyema is to remove the inflammatory product as thoroughly as possible, and this can only be done after opening the cavity sufficiently to remove by mechanic measures the infected exudate In recent cases resection of two inches of one rib at a point where drainage will be most effectual will afford sufficient room to subject the pleural cavity to a thorough removal of the inflammatory exudate With the exception of the case of circumscribed empyema, we opened the chest in the axillary line where the ribs are nearest the skin and usually resected the seventh rib With one exception, aspiration was performed a day or two before the operation for the purpose of securing partial pulmonary expansion before admitting air into the pleural cavity

Preliminary aspiration is of special value in the treatment of large empyemic cavities The surface of the entire chest was thoroughly disinfected and every care taken to carry out full aseptic precautions during the operation The opening of large pus cavities is attended by great responsibility, and this is more especially true in empyema, as secondary infection is liable to occur unless the operation is performed under strictest aseptic precautions If an anesthetic is given, the greatest watchfulness is required to guard against accidents I always prefer to perform the operation under partial anesthesia, and I am very partial to strychnia and alcohol as valuable adjuncts in minimizing its immediate and remote dangers

I place the patient partially on the opposite side with the chest slightly raised, and the arm on the side to be operated upon raised to the side of the head for the purpose of increasing the width of the intercostal spaces I expose the rib to be resected by a slightly curved incision with the convexity directed downward, beginning the incision at a point corresponding with the upper border of the rib, carrying it in a gentle curve to the lower border, and terminating it at the upper border at a point about four inches from where it started By reflecting the cutaneous shallow, oval flap in an upward direction, the muscular covering of the rib is exposed A straight incision over the center of the rib, about three inches in length, is then made down to the bone With an elevator the periosteal envelope with the tissues attached to it is then separated, taking care to lift out from its groove the intercostal artery with the tissues to be reflected After laying bare the rib to the extent of at least two inches, the rib is lifted forward with the elevator and excised with a strong pair of bone cutting forceps If the diagnosis is positive, all that remains is to make an incision with the scalpel in the center of the periosteal trough, large enough to admit the tip of the index finger

The evacuation of the chest contents should always be done slowly, this can be done most effectually by interrupting the flow of pus from time to time by inserting the index finger into the pleural incision After evacuation of the pus and loose shreds of fibrinous material, the pleural cavity should be carefully examined by direct inspection and digital exploration Plastic exudates attached to either pleura must be removed as thoroughly as can be done with finger and a small gauze sponge held securely in the jaws of a pair of long, preferably slightly curved, forceps The membranes should be removed by mopping and not by the use of sharp instruments Scraping of the pleuræ with a sharp spoon is superfluous and occasionally detrimental In acute cases I have often noticed quite free hemorrhage from the pleural surfaces even after gentle efforts to dislodge the adherent fibrinous exudate Should troublesome hemorrhage follow the procedure, packing of the pleural cavity with one long strip of plain sterile gauze should at once be resorted to The space below the drainage opening is packed first, and if the hemorrhage is not arrested, the balance of the cavity is packed from above downward

Tubular drainage is the ideal method of draining a suppurating pleural cavity I use for this purpose two fenestrated tubular drains, the size of the little finger, about four inches in length and securely fastened together with a large safety-pin Drains have been repeatedly lost in the pleural cavity for want of resorting to this simple precaution After inserting the tubular drain, the external wound is sutured in the usual manner The curved incision, as described above, not only exposes the ribs more freely than the straight incision, as usually practiced, but it is also much better adapted for prolonged drainage

I never irrigate the pleural cavity the day the operation is performed I do so later, provided suppuration continues In case irrigation of the pleural cavity becomes necessary, care is necessary in the selection of the antiseptic solution, carbolic acid and corrosive sublimate in the usual strength are dangerous, and should never be used I make use of either a saturated solution of the acetate of aluminium or Thiersch's solution Both of these solutions are efficient as an antiseptic and non-toxic even when used in large quantities The value of the double drain is made apparent when it becomes necessary to irrigate the pleural cavity By placing the patient on the opposite side, the fluid which enters the chest through one tube escapes through the other as soon as the cavity is full, thus washing it out thoroughly By placing the patient on the affected side the cavity is emptied, when the same procedure is repeated until the solution returns clear The solution used should always be heated to blood temperature, as irrigation with a cold solution is fraught with danger

The external dressing should consist of a thick cushion of sterile gauze and absorbent cotton to absorb the fluid as fast as it escapes, and to provide the wound with a filter to prevent post-operative infection The best way of keeping the dressing in place and to prevent the entrance of unfiltered air into the cavity, is to substitute for the ordinary bandage the rubber webbing bandage Change of dressing and antiseptic irrigation become necessary as often as the dressing becomes saturated For the purpose of obviating frequent changes, the dressings should be ample

As the cavity diminishes in size the drains are shortened from time to time, and sooner or later one of them can be dispensed with Premature removal of the drain is often followed by relapse Drainage must not be suspended until the surgeon can satisfy himself by careful examination that the pleural cavity has become obliterated

Should the lung fail to expand sufficiently in the course of a few months to place the cavity in a condition for definitive healing, Schede's thoracoplastic operation is the operation of choice, as Estlander's multiple rib resection has not yielded the expected results in the practice of many operators, including my own It is well for the surgeon to keep close watch of the size of the cavity during the after-treatment It has always been my custom, at stated intervals, to place the patient on the opposite side, then fill the cavity with one of the antiseptic solutions used for irrigation, then evacuating the chest by reversing the position and measure the quantity of fluid removed By recording the results of such measurements, we are in a position to judge with mathematic precision the size of the cavity, and determine whether or not healing is possible without further and more serious operative interference Prompt and progressive improvement followed the operation in all of my cases of empyema operated upon in Camp Thomas In most of the cases suppuration was soon under control, followed by speedy pulmonary expansion and permanent healing of the empyemic cavity by granulation In two of the cases a recent examination made by Dr A F Lemke showed that the patients recovered their former health

The Journal of the
American Medical Association

Vol XXXI CHICAGO, ILLINOIS, NOVEMBER 5, 1898 No 19

ADDRESS

PROGRESS IN NEUROLOGY

[ABSTRACT]

Chairman s Address before the Section on Neurology and Medical Jurisprudence at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo , June 7 10 1898

BY C H HUGHES, M D

ST LOUIS

Since last we met Neurology continues its onward march, both in special discovery and in new and better precepts and principles to guide the practice of our art

During the past year the neurologic view of heart disturbance finds further confirmation from physiologic sources in the following recent editorial reference to the subject in the *Duetsche Wochenschrift*

"A series of experiments at Buda Pest, producing artificial valvular insufficiency and dividing the vagi, seems to demonstrate that alterations in the nervous system play an important part in preventing compensation in cases of valvular insufficiency "

Numerous clinical symptoms confirm this assumption arhythmia, etc , and Ott's statement that he found the nerve-cells degenerated in cases of " incompensation

The direct neural and reflex nervous disorders of the heart constitute our chief concern in clinical medicine, and damage to the vagus and upper abdominal viscera constitute the chief concern in the management of most cardiac affections, as the neurologist, the alienist, and even the general practitioner, encounter them in practice

The past year has witnessed more attention to psychiatry on the part of neurologists and more attention to pathologic work, as instance in illustration, the wide range of subjects treated in the State Hospitals Bulletin of New York, a publication which bids fair to become as famous for record of good work as the well known and unsurpassed West Riding Asylum Reports of Great Britain

A committee of the American Neurologic Association has since our last meeting taken up and reported to that body on the subject of the after-care of the insane

In this connection, I note that Dr Putman of Boston, in the Transactions of the Association of Ameri- Physicians and in the *American Journal of Medical Sciences,* offers new views of thyroidal dis ses and Graves' disease and Dr J T Eskridge of Denver also on some new uses of the thyroid extract Our colleague of this city, who never rests from his [illegible]s, will soon be heard from in the *American System of Practical Medicine,* Vol iv , now in press, and has eported in the September *Medical News* an interesting case of intradural spinal tumor, extending through the foramen magnum, compressing the extreme upper portion of the cord and almost completely destroying it at the third cervical segment

Up to 1884, Drs Goodell, Pallen and other gynecologists advised the removal of the ovaries in all cases of insanity

That same year, Dr T G Thomas reported three cases of insanity following the operation and Dr Putzel, of the New York City Lunatic Asylum, reported one hundred postmortems on insane women dying in that institution without a trace of disease of the ovaries

Since our protest in 1882 (vide *Alienist and Neurologist,* January of that year) against the too reckless surgical disposition then in vogue to "obliterate the neuropathic constitution by excising the ovaries and the later protests of our neurologic colleagues, a sensible conservatism has supplanted reckless radicalism concerning this operation which Spencer Wells, Matthews, Duncan and Martin of Berlin early discountenanced

The entire editorial under the caption of " Unjustifiable Pelvic Operations " is a further evidence of the invasion of neurologic thought into the domain of general clinical medicine and surgery especially during the past year, and confirms our long ago expressed conviction (vide *Alienist and Neurologist,* 1880) that "Neurology is destined to reign paramount in medical thought and practice "

Playfair, a professor of obstetric medicine in Kings College, contributes a chapter to Allbutt s English and American Gynecology, and Howard Kelly, our own countryman, in a late number of the *American Journal of Medical Sciences* opposes needless vaginal examinations and repeated local treatments of virgins from a psychical standpoint, as any neurologist might

The year since last we met therefore closes with the prevalent and advanced professional conviction, no longer confined to neurologists alone, that the neuropathic diathesis is not removable by the knife

The influence of magnetic stress on physiologic action as a part of neurotherapy is worthy of note here, and on this subject our colleague, Prof W J Herdman, in the *Bulletin of the Electro Therapeutical Laboratory of the University of Michigan* in his capacity as director thereof, called attention to this subject, October, 1887, showing a 10 per cent daily increase of eliminated urea on the days when subjects were in the magnetic field and upon animals, 20 per cent of increase of nutrition for eight weeks while in the magnetic field, with a gradual decline after the twelfth week, showing tolerance These results correspond with d Arsonval's

The surgical treatment of exophthalmic goiter was the subject of discussion at the French Surgical Congress Paris, October, 1897 M Faure of Paris reported having excised the cervical sympathetic in three cases In the first of these, the superior cercal ganglion, along with five or six centimeters of the descending cord, was excised on both sides, after four months the exophthalmus had diminished, the goiter was less in size, the tachycardia and the general health had much improved In the second, the entire sympathetic was resected on the right side (superior and inferior ganglion included), the superior ganglion and part of the cord only on the left side (because of the onset of alarming syncope), this patient improved still more markedly than the first The third case died on the table after the entire sympathetic cord had been removed from the right side and the dissection on the left side was about to begin

I introduce this record of so called progress in surgical neurotherapy only to enter my protest against M Faure's procedure The improvement resulting in the first two recorded cases was not greater than would have come to the victims of his knife under the enforced rest and expectancy of the operation, and the spinal sympathetic system is not so useless in the human economy as to justify such radical destruction This, the death on the table of the third case operated upon confirms

I oppose this surgical procedure also because it is not only too destructive, but because it is not necessary, since exophthalmic goiter is almost invariably curable without the knife, at least it has been so in my hands under arseniated and phosphorated bromid and blood reconstructive treatment, with adequate nerve and brain rest and changed mental environment for the patient

Something has been added to the therapy of neuropathy during the past year The suspension treatment of tabes modified by recumbent knee abdomen process and stretching of the sciatic nerve in sciatica, have passed from a great therapeutic expectation to their normal remedial limitations, and the much-heralded massage cure for tabetics is now on the tapis to find the sphere of legitimate limitation during the coming year, just as is the fate of all therapeutic fads

Spermin (Poehl's *Deutsche Medicinische Wochenschrift*, Oct 7, 1897) has been used with benefit by Wesbitzky of Professor Payoff's clinic in St Petersburg One of his cases, a soldier of sixty years of age, after ten injections, improved markedly in gait, posture, pains and perception (tactile and electric), etc A second case not so typic, improved, but not so markedly

Many new cures for epilepsy have been emblazoned on the therapeutic horizon during the past year, but none have yet eclipsed the Brown Sequard formula

Among the latest additions abroad to the therapy of this disease is an old remedy long used in this country before the advent of bromids, viz, adonis vernalis[1]

The Johns Hopkins Hospital Reports, *The Journal of Psychology and Comparative Physiology* and the *Ophthalmologic Review* have contributed much during the past year to neurologic progress, and thyroid-therapy has been much extended in its usefulness in neurology, but my twenty minutes' limit will not permit me to dwell more at length on this subject

The after care of the insane, separate provision for epileptics, sequestration in hospital colonies, the increased attention given to the subject of asexualization for incurable and propagable and criminal neuropathic disorders, mark neurologic progress during the past year and give hope of the staying of that neuropathic plague which, like a silent pestilence, has followed and damaged civilization in its march since its emergence from barbarism

The literature of psychiatry in this country has been enriched also by a book by Dr Kellogg on, "Mental Diseases," Dr Chapin's "Compendium of Insanity," John C Shaw's "Compendium of the Essentials of Nervous Diseases and Insanity," and S V Clevenger's treatise

The advancing popular professional interest in psychiatry is further shown by the advent of Burr's "Primer of Psychiatry for Medical Men and Students and Trained Nurses," and the frequent contributions to the psychiatric aspects of the practice of medicine and surgery from sources of clinical experience where until lately these subjects were persistently ignored

Physiologic and neurologic medicine during the past year has elicited unusual interest in the general medical societies of the country Chas E Beavor, H K Lewis, Mills and Dana, of this country, have since last we met, brought out new books on the diseases of the nervous system

The normal histology and pathology of the neuroglia (so called) in relation especially to mental diseases has been much elucidated during the past year by Dr W F Robertson's report from the laboratory of the Scottish asylums in addition to the contributions of other American and European asylums, especially the Italian

The neuron is a proved unit in physiologic and pathologic processes and Lewellys F Barker has done more than any other American during the past year to prove it

Foster and Sherington have embodied the discovery of Raymon Y Cajal, and the later amplifications of this new light on the nerve centers, in a new edition of Foster's text book of physiology Dercum has offered some captivating conceptions thereon which do not yet appear as misconceptions, and Van Geison continues his researches to the glory of American neurology

I think it was Weidersheim who, in 1890, saw or thought he saw movement under the lens in an esophageal ganglion of a living animal The mobility of the neuron was suggested by Rabe-Ruckard and Lapine and Duval

Pierce Bailey's book, just from the press of D Appleton & Co, on accident and injury in their relation to the nervous system, is the beginning of that surgical *rapprochement* between surgery and neurology which needs only to be supplemented by the forthcoming book from the neurologic side on the relationship of the nervous system to accidents and injuries, especially in its pathologic states, to make the union complete

Neurology in its neuro physiologic and neuro pathologic aspect is destined to again unite all the specialties to that general medicine from which they have been prone to become too much dissevered. We have progressed already to the point that binds neurology more or less closely to all clinico medical and clinico surgical problems The labors of neurology in the medical advance of the nineteenth century have not been in vain

---

Let us have a Department of Public Health!

---

[1] Tolutiew, in Neurologisches Centralblatt February, 1898,

ORIGINAL ARTICLES.

HEREDITARY SYPHILIS

Presented to the Section on Diseases of Children, at the Forty ninth Annual
Meeting of the American Medical Association, held at
Denver Colo June 7-10 1898

BY L DUNCAN BULKLEY, A M M D
PHYSICIAN TO THE NEW YORK SKIN AND CANCER HOSPITAL, ATTENDING PHYSICIAN TO THE SKIN DEPARTMENT, RANDALL S ISLAND, CONSULTING PHYSICIAN TO THE NEW YORK HOSPITAL, ETC
NEW YORK CITY

This topic is one of great practical interest Fournier has wisely remarked that "nothing is so dangerous to its surroundings as a syphilitic infant,"[1] and it can not be without interest and value to discuss a subject so vitally connected with the welfare of many of those whom we are called upon to treat The subject of hereditary syphilis is such a vast one that it is difficult to determine just what points to present, and each aspect is capable of development far beyond the proper limits of these introductory remarks

First, it may be said that our consideration will be confined to *hereditary* syphilis, as distinguished from the broader subject of *infantile* syphilis, for the latter properly includes that acquired after birth in innumerable ways, such as in nursing, feeding, vaccination, circumcision, and many others and even a primary sore acquired while passing through the mother's parts

It may be here remarked that Fournier[2] has made the distinction between syphilis received with conception—that is, when one or both parents were diseased before procreation—and syphilis acquired by the fetus during intra-uterine life, from a subsequent infection of the mother To the former alone he would apply the term "hereditary" syphilis He claims that clinically there is a difference to be observed between the ante conceptional syphilis and that acquired during intra uterine life, the former is much more fatal to the fetus In our study we shall not make this discrimination, but for practical purposes consider hereditary as synonymous with congenital syphilis

Confining our attention then, to hereditary syphilis, or that existing at birth, there are many very interesting points which meet us at the threshold of our study and are not without practical bearing, some of these are still "moot points," and can not be absolutely determined, some lead us so far away from the center point—the syphilitic infant—that they need not be included We will consider a few of those most vitally related to the subject

The first question that arises is How and when does transmission of the disease take place? When the mother is profoundly syphilitic in the early contagious period of the disease, it is not difficult to understand that her offspring should partake of the same But what are the limitations of time or condition as to the date of the mother's infection? This is a hard question to answer absolutely Many cases are on record when the mother has acquired the disease one, two, three, five, seven and even eight months after conception, with the result of either abortion or a syphilitic child, I am not aware of any reported cases where infection in the ninth month resulted in a diseased child, and generally it will escape an eighth month infection Naturally, syphilis acquired before conception will be more likely to cause early abortion, that received later results in a diseased child

The more difficult question as the direct effect of only paternal transmission of syphilis can not be so easily and certainly dismissed Many have doubted if the disease could be given by the father alone without the intermediate infection of the mother, for certain reported experiments have seemed to indicate that the syphilitic virus is not communicated by means of the normal secretions—milk, saliva and semen On the other hand, clinical evidence is accumulating that many children with syphilitic fathers are born with the disease, while the mothers are free from it—or appear to be free from it, on careful and prolonged medical observation Some writers have attempted to explain away these cases by the well-known irregularities of syphilis, whereby, especially in women, its course may be peculiar, with prolonged absence of active symptoms But still other clinical facts are being presented which go far to support the paternal transmission of the disease Such are the occasional exceptions to Colles' law, in which the mother has been infected by her own child, and also instances of her acquiring a chancre otherwise (after having given birth to the syphilitic baby), both of these show that she has not the disease at the time, and so the infant's infection must have come from the father Instances are also on record where a woman has borne syphilitic children to syphilitic men, and healthy children to healthy men The paternal transmission of syphilis must, therefore, be accepted as a fact

Syphilis is a powerful poison, producing various degrees of vital injury, even to death It is not necessary to discuss here the nature of the virus, about which very little is positively known most observers agree that it must be due to a toxin dependent on a micro organism which, however, has not as yet been isolated with certainty The first effect of a full dose of the poison is inhibitive to the powers of procreation, and sterility is the fortunate result With a slightly less intensity of the virus a non-viability of the product of conception results, and the fetus is thrown off early even before the third month With diminished virulence of the poison, or greater vitality of the parents, the life in the uterus will be prolonged, and abortion of a fully formed and diseased child may take place at any period up to full term, but by far the larger number of miscarriages take place by or before the seventh month With still less of the poison or greater vital resistance, the child may be born at full term, with or without external manifestations of the disease

Even if brought into the world alive, the product of syphilitic conception has a relatively weak hold on life This is instanced in the well known statistics of the Moscow Hospital where of 2000 syphilitic children born in eleven years, over 70 per cent died Fournier makes the mortality 28 per cent from exclusive paternal heredity, 60 per cent from maternal heredity and 68 5 per cent from a mixed heredity Some figures are even more appalling In Sigmund s wards in Vienna, out of 61 children born syphilitic, 59 died 13 of them being still-births of 47 living children only 1 survived more than three months These figures, however, relate to hospital cases, and were taken some years ago, and it is believed that with better knowledge of the disease and prophylactic treatment, a very much better showing could now be made the results are also much better in private practice But the facts stated serve to show the terrible virulence of the poithat at some time mucous patches may not develop in the mouth which may infect the nurse Danger could be avoided only by securing a nurse who was probably immunized by having had syphilis There would be no danger of adding to the child's syphilis, for it has been pretty conclusively shown that syphilis can not be conveyed by the milk alone

---

[1] Fournier Syphilis et Marriage p 211 Paris 1880
[2] Fournier L Hérédité Syphilitique, Paris, 1891

But even in the artificial feeding and ordinary family care of a syphilitic infant there is danger to those who have not had the disease Multitudes of cases are on record where the disease has been thus communicated to those around by means of the feeding bottle, from tasting it I have seen one case where this was believed to be the mode of infection Time and space forbid our entering further this most interesting field of thought, sufficient to say, the most scrupulous care should be exercised in connection with the hereditarily syphilitic child, that in no way secretions from its lesions should affect others by mediate or immediate contact

The subject of treatment in connection with hereditary syphilis has several divisions First we may speak of prophylactic treatment

The prophylactic treatment relates first, to guarding the prospective child against the dangers threatening from syphilis existing in one or both parents, and, second, to guarding others from the perils incident to the very contagious secretions given forth by the syphilitic child

Time and space forbid discussion here of the very broad subject of marital syphilis, but it is one which should be very seriously considered by every medical man The best observers all agree that procreation should not be allowed until after at least two years of active treatment for recent syphilis, and until at least six months have elapsed without treatment and without any manifestation of the disease When the mother already has active syphilis and has become pregnant, her treatment should be pushed in the most vigorous manner possible My preference in early syphilis, is for the treatment recommended by Hutchinson, of one-grain tablets of mercury and chalk, given every two hours, to the utmost tolerance of the drug Eight to ten tablets may be taken daily, and in some cases it is often necessary to double some of the doses, and if necessary to administer opium to prevent purgation Salivation should not be caused, and to prevent this great care to the mouth may be necessary, with the constant use of chlorate of potash or antiseptic solutions If there should be intolerance of the stomach, mercurial inunctions should be used, or hypodermic injections of mercury In somewhat later syphilis, the iodid of potash may also be needed, especially if placental disease is strongly suspected This very active treatment should be pushed even up to the day of confinement, and as soon thereafter as possible

Coming now to the prophylactic treatment of the offspring, it may be stated that the hereditarily syphilitic child should be regarded from the first as a dangerous element, even if in apparent good health, for it is never certain how soon syphilitic manifestations may exhibit themselves It is to be remembered that the coryza may, and usually does, occur before the appearance of skin symptoms, and this secretion from the nasal passages and mouth is intensely virulent, and under proper conditions can give rise to a chancre when least expected If at all possible, the syphilitic child should be nursed, and by its own mother, as this affords it the best hope of life and health, as compared with artificial feeding It should, of course, never be given to a healthy wet-nurse, for, however healthy at the time, mucous lesions may develop at a later period in the mouth, with the almost certain result of a chancre of the breast in the nurse History is full of records of thousands of instances where this has occurred, and many where veritable epidemics occurred, passing through many individuals by direct or indirect transmission

If the baby is fed artificially, great care must be exercised that the nursing bottle and articles connected with feeding, are kept scrupulously clean and away from the possible infection of others The instances and methods by which brephotrophic syphilis has been communicated would greatly surprise one who has not become familiar with the subject These can not even be enumerated here, but the list[3] amounts to between forty and fifty different categories, relating to almost every possible article of use or means of communication between the syphilitic child and those surrounding it

The direct constitutional treatment of the hereditarily syphilitic child can be dismissed with few words When there is strong reason to suspect that the child will develop the disease, a more or less mild treatment should be begun at birth, even before active symptoms manifest themselves, and be continued with judgment until the time of the feared explosion of the disease has passed With any development of active symptoms the anti syphilitic treatment should be pushed to all proper bounds

For the active treatment of the disease no treatment has been devised which is better than inunction, as I believe is universally practiced The blue ointment, diluted one-half with cold cream, is rubbed over the abdomen and loins, and smeared on a flannel band and worn constantly, fresh ointment being applied once or twice daily, according to the necessities of the case Grey powder, given every few hours, is also a desirable plan in certain cases, and if there is evidence of intestinal disturbance, the bichlorid of mercury, half a grain to a grain to the pint of water, of which a teaspoonful may be given every few hours Iodid of potassium is seldom wanted in the early stages

The greatest care must also be given to the nutrition and general health, and every measure and remedy adopted which will heighten the vitality of the child Iron is often called for in connection with the mercury, even in very young subjects Later in the disease, and for the various sequelæ, the treatment is that indicated for acquired syphilis, and need not be detailed here I may, however, mention that the syrup of the iodid of iron, even pushed in large doses, often yields brilliant results in rebellious cases

The subject which we have tried to briefly cover is a very large one, and I feel that it has been but imperfectly presented But if I shall have succeeded in calling attention to any features which may have been forgotten by some, and if a good discussion of the subject shall result, I will be more than satisfied

4 East Thirty Seventh Street

---

[3] L Duncan Bulkley Syphilis in the Innocent, p 19 New York, 1894

Diagnosis of Sinus Thrombosis —Voss calls attention to the fact that absence of vein sounds on the diseased side is an aid to the diagnosis, only noted in children to date —*St P Med Woch*, October 8

THE MEDICINAL TREATMENT OF CONGENITAL INFANTILE SYPHILIS

Presented to the Section on Diseases of Children at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY CHARLES S SHAW, M D
PITTSBURG PA

Syphilis is one of that small but happily increasing number of diseases in which special medication can be confidently expected to be followed by certain benefit, its prompt and intelligent treatment, therefore, is of more positive value than is the case in diseases in which the therapy is indefinite, and where remedial agents, especially drugs, are of uncertain action For clinical purposes the classic division of the disease into three stages is most convenient, though it seems to me the belief of Hutchinson, that syphilis is a true exanthem, running a definite and limited course, is the proper conception of the disease Under this hypothesis the interval between the initial sore and the appearance of the constitutional symptoms is the period of incubation, the secondary stage is the time of active manifestation of the disease, and the third or tertiary stage is in truth the appearance of sequelæ, and is no more syphilis than nephritis is scarlet fever, or cardiac insufficiency is acute rheumatism There are many clinical facts corroborating this opinion, which though interesting, are foreign to my subject, and need not be mentioned

In the treatment of syphilis, the secondary stage, the period of activity of the disease, is the time in which the best results are to be expected Treatment during the primary stage, even early and complete excision of the initial lesion, has proven unsatisfactory, and, though gratifying results often follow proper medication in the tertiary stage, disappointment is by no means unusual In the infant we have, as a rule, the secondary stage to treat, the initial lesion never, the tertiary stage rarely, because the child, owing to its slight resisting powers, usually dies of malnutrition before that stage is reached It is this lack of resistance in the child that makes the treatment of infantile syphilis less uniformly successful than it is in the adult

In making a prognosis in any case of infantile syphilis my experience has led me to consider as the most important factor, aside from the question of visceral lesions, the nutrition of the child, or rather its capacity to assimilate nourishment We have all seen children with extensive mucous, cutaneous, and even osseous lesions, who, nursing well and digesting well, will steadily improve while others, in whom the disease to all appearance is much less virulent, but in whom nutrition is defective, will die From these observed facts the deduction as to the best method of treatment is obvious—that method which will least disturb nutrition

The value of mercury in adult syphilis does not admit of question, but in infantile syphilis it is unique, it is the only drug The iodids arsenic and iron, so valuable in the treatment of the sequelæ in the adult, have little place with infants, because this stage is seldom reached While it is true the child may need a tonic, it is a general need and not a specific one Mercury in some form is a *sine qua non* It is a question therefore, of method of administration and choice of preparation

Four ways of giving mercury are in vogue by the mouth, by hypodermic injection, by vaporization, and by cutaneous inunction The advantages of giving by the mouth are convenience, exactness of dose and control of effects, the disadvantages are slowness of action and the likelihood of digestive disturbances The advantages of hypodermic injection are rapidity of action, certainty of action and exactness of dose, the disadvantages are pain, which is often severe, and the possibility of abscess The advantages of the vapor bath are rapidity and certainty of action, the disadvantages are inconvenience the need of special appliances, and inability to always control its action severe mercurial ptyalism occasionally occurring The advantages of inunction are certainty and rapidity of action and control of effect, the disadvantages are, uncleanliness, inconvenience and the possibility of cutaneous irritation

The first and usual method—by the mouth—is contraindicated in infants by the digestive disturbances that so frequently follow the internal use of mercury in them In adults this is not usually a serious matter, but in view of the supreme importance of preserving and increasing the nutrition of the syphilitic babe, and the danger of digestive derangements, this disadvantage amounts in many cases to an interdiction The hypodermic method in infants is objectionable because of the pain and of the possible abscess that attend its use, if by any other method we can secure its virtues, certainty of action and control, we may dismiss it as inapplicable The troublesomeness of the vapor bath is greater in infants than it is in adults, and the danger of mercurial poisoning is certainly not less, it may therefore be considered as of doubtful utility There remains the fourth method—that of cutaneous inunction The advantages—certainty and rapidity of action and control—are at least as evident in infants as in older patients, and the disadvantages of uncleanliness and inconvenience disappear altogether in infancy The question of cleanliness is an individual one, and as the infant has no sense of personal cleanliness, the objection, so forcible with the adult, does not obtain The question of convenience is also an individual one, the method is certainly troublesome to the adult, but it is not so to the infant nor its attendants The liability to cutaneous irritation can be completely removed by a little care In my opinion the evidence is clearly in favor of inunction

The eligible preparations are the unguentum hydrargyrum of the pharmacopeia and the official 10 per cent oleate of mercury These should be diluted with an equal quantity of lanolin lard or vaselin and they will rarely irritate the skin The method of administration is very simple, spread about one dram of the ointment on a small piece of cotton or flannel cloth and lay it on the child's abdomen, covering it with the binder, or, more simple still, spread it on that edge of the binder that is first applied to the child s body, every second day bathe the child and reapply the ointment The warmth of the child's body, the gentle friction produced by its movements, and the activity of its cutaneous circulation all contribute to the speedy absorption of the medicament Under certain urgent conditions, when it is necessary to quickly and powerfully impress the system, it may be advisable to have temporary recourse to one of the other methods to aid the inunction, but the systematic, persistent treatment may be reduced to this aphorism There are two ways of treating infantile syphilis, a right way and a wrong way, the right way is by mercurial inunction, the wrong way is any other way

THE DEBILITY OF ADOLESCENCE

Presented to the Section on Diseases of Children, at the Forty ninth Annual Meeting of the American Medical Association, held at Denver, Colo, June 7-10 1898

BY LOUIS FAUGERES BISHOP, M D
NEW YORK CITY

It has always been a puzzle to me to know just when the specialist on diseases of children gave up his case to the specialist on older people, and just when the specialist on older people gave up his patients to the specialist on old age This suggests the existence of transition periods There might well be study devoted to the period during which the child is passing from childhood to maturity Of course, the child grows steadily from birth to manhood, but there is a period during the latter part of this time to which the name of adolescence is given, a period during which the youth is subject to particular departures from health

During this period, when the active forces of early development have begun to wane and the solidification of maturity has not yet taken place, the organs are especially susceptible to damage from whatever causes may be active Thus in early youth the poison of tobacco is badly borne, and functional derangement of the heart is a frequent result from doses of nicotine that at maturity have no such effect In the same way the acute infectious diseases have a greater liability to involve the kidneys The tendency to defective action of the blood forming organs is the cause of the extreme frequency of simple anemia between the ages of 16 and 25 During this period also acute gastric attacks are frequent Temporary nervous affections, such as hysteria and melancholia are met with in individuals, who during the rest of their life are free from these disorders Headaches of a persistent and troublesome type, not traceable to any other cause than debility, constitute a troublesome condition The importance of special attention to these symptoms at this period of life is that then true bearing shall be understood so that a just prognosis may lead to patient management and the final development of the youth into a sound adult It frequently happens that the debility of adolescence is most marked about the time the boy or the girl would pass from school to college In some instances this breakdown of the vital forces is so marked that it is advisable to allow an interval in the educational course of, perhaps, a year, devoted to travel or an out-door occupation Too frequently the boy goes to college and his health falls a victim to irregular hours and mild dissipations that his stronger classmates are easily able to bear This condition, to which we have given a name, is more difficult to manage on account of its indefiniteness If we can convict a patient of nephritis, or gastritis, or incipient tuberculosis, it is easy to obtain a hearing for our counsel, but to call it debility is not always enough for the layman

Then there are certain cases, the care of which is incumbent upon physicians, that are not so easy to define as are particular diseases One of these conditions is a certain laxness of fiber of the body as a whole, but which manifests itself more especially in certain directions It is specially common in young persons who have grown rapidly in height and in bulk but whose organs have apparently not increased in power in a ratio proportionate to the size of the body These young persons are prone to suffer from anemia, cardiac insufficiency, gastric disturbances and a mild neurasthenia On account of their size and muscle they are tempted to take part in athletic contests, much to the injury of the poorly developed heart They acquire by exercise enormous appetites, that when gratified overtax the powers of the stomach and cause dyspepsia The bad heart action, the disturbed digestion, create a vicious combination when combined with anemia, and may give rise to disturbance of other organs There may be albuminuria and even edema This may or may not indicate a real nephritis So we have the picture of a man, or rather a boy the size of a man, who has outspread in his physical growth the capacity of his organs, and suffers from a deficiency of the blood making, the blood-circulating, and the food-digesting organs with an accompanying neurasthenia The question of the management of these cases is a difficult one Should such a constitution be hardened and developed through work, or should the organs simply be allowed a chance to increase in power by rest? Should the mind be taken out of itself by the forced application of school and college, or should it be diverted by travel or amusement? Then the question of the administration of drugs arises It would seem that no specific rules are possible Each case must be managed on its merits The important beginning is to recognize the condition, and not to write the boy down as a dyspeptic, a case of cardiac disease proper, a case of nephritis, or even a neurasthenic, though any or all of these conditions may exist in their incipiency and be possible under bad management In the average case it is better not to take radical measures, such as removal from college, but rather to protect the weak organs by preventing over-exertion in atheletic contests, over-study and depressing surroundings The tendency to hypochondriasis is great, so that it is important that the boy should be treated as little as possible as an invalid

The albuminuria of adolescence has recently attracted my attention, especially because of its observation in a particularly interesting case This has led to the consideration of this organic debility, observed quite frequently in boys and girls just previous to the period when they reach maturity Thus, often, a boy who during his entire early life has been well nourished and strong, during the period of rapid growth, becomes anemic and emaciated With this, there is an inability of the digestive organs to properly carry on their work There is apt to be trouble with the eyes, headache, feebleness of the circulation, morbid nervous manifestations, and a general condition of debility We can not say these cases are of dyspepsia, neurasthenia or anemia, because they are all three, and yet they are none of these It would seem that rapid growth, under unfavorable conditions, had for the time being exhausted the organs and produced debility When this debility has been removed the suspicions of organic disease are likewise dissipated Like acne, showing the inability of the sebaceous follicles to properly empty themselves, it will last until the tone of the whole system recovers from the strain of adolescence

In the management of adolescence are to be considered the counter claims of a system of hardening by exposure and hardship and a system of coddling to conserve bodily forces It is indeed an important question The Spartan régime that develops only what can be developed under a rigorous education, and destroys what can not be perfectly developed, is out of tune with modern civilization

On the other hand, there can be no doubt of the quality of the fiber that is developed in youth by a severe system of training In educational institutions classification is the safeguard The pupils should be distributed in small groups so that the ambition of each should be stimulated by a proper rivalry, but not annihilated by oppression Here the physician should insist that any who suffer from the debility of adolescence should be protected from the injury of an injudicious system of education Let the mental training, if possible, be deferred for a time while the child or youth is allowed to relapse more into a state of nature Happy is it for such a patient if country life and country pursuits are available The administration of drugs will consist only of the quite persistent use of cod liver oil and iron and the occasional stimulation of the functions of the alimentary canal The conditions of life are to be readjusted so that a normal and healthy manhood may finally be reached by the youth whose adolescence has been characterized by this peculiar lack of vitality

During this period of life young persons often suffer from what almost amounts to cruelty on the part of their superiors who do not appreciate that there is a real underlying debility, not only of actual physical endurance, but of nervous power I have no doubt that many of the robust older people, who tell us that when they were young they were threatened with consumption, and were sent away for a year, were in the hands of some wise old practitioner, who appreciating their condition, used a little justifiable exaggeration to obtain obedience to his advice

A great danger is that a boy of this character may aggravate his condition by the use of tobacco, to which he would be unusually susceptible on account of the already feeble heart action Can such a boy lead a pleasant outdoor existence with moderate interesting occupation, removed from the worry and burden of school life, in course of a few years the heart, stomach, kidneys and nerves will acquire development and efficiency equal to the bulk and demands of the system at large, so that the patient may in every respect be a normal individual These conditions are worth careful consideration because the danger of supposing wrongly that we have to deal with chronic organic disease is great On the other hand, we must not confound the symptoms of this condition with very similar manifestations due to, for instance, a real nephritis following the exanthemata

So it is important to recognize the general physical conditions incident to the several periods of life Each has its special features It is convenient and advantageous to separate medical work into divisions for study It is the privilege of the general practitioner to meet now with one group of students and now with another All workers in diseases of children must of necessity be general practitioners in the broadest sense, so that in this section a study of the transition period will not be out of place

30 West Thirty Sixth Street

DISCUSSION

Dr SLAGLE of Minneapolis—We all see cases of those growing too fast and those frequently who are pushed too fast, those whose muscular system has grown too fast for the internal organs The essayist confined it, I noticed entirely to the masculine sex but it is perhaps as applicable to girls in many instances Chlorosis is very frequent in this class of patients in our part of the country The caution the essayist gives about pushing those children or branding them as indolent is very good

Dr R B GILBERT, Louisville—The patent nostrums we see advertised, which in many instances are composed of alcohol or opium in disguise, are frequently used These cases are often treated too lightly by the family physician The symptoms are too indefinite, so that the hasty answers he gets from the doctors he applies to, are unsatisfactory Then it is he falls a victim to the patent medicines, to his great injury It is a subject we should consider carefully and we should pay more attention to that class of adolescents, take them out of school take them off cigarettes and tobacco, of course, and send them to the country I remember a young man who began the study of medicine, against my advice, at 18 years of age After a year he got into such a condition that he abandoned the practice of medicine and went to Colorado and hired himself out as a herder of sheep He came back to our country a healthy and ruddy individual Possibly the celebrated climate here had something to do with it, but I think it was more the rough and tumble life he led and the rough food he had to eat At home he had been fed on all the delicacies the markets could afford Give the boy encouragement, let him know he has the elements of health in him and put him out where he can get a move on him It is not often the case that they get into the army, but in the volunteer service I remember several such individuals One, a cousin of mine, was just that sort of an individual, and camp life his mother thought, would be the death of him in a month She sought his release but the officers would not relieve him After six months he was rosy and fat on hard tack and bacon

Dr MCCONNEL—In my experience in all these cases there is a cause, and in my experience the cause has been in the stomach These young men have not a so called dyspepsia, but they have mal or non assimilation While they have no appetite, they are fed on all the delicacies of the season, their appetite is pampered and as a consequence they eat more than they can digest If their appetite is carefully cared for and if they are impressed that stuffing is not nourishing, they soon will get an appetite and assimilate the food When a boy gets in this condition the first thing the physician tells the parents is to take the child out of school Nothing flatters the parents more than to tell them that their children are studying too hard Oh, they love to hear that! Nine times out of ten they are not studying at all I tell you, gentlemen, it is not over study it it under play It is wrong and a great injury to these cases to take them out of school

Dr H W SCAIFE, Chicago—The last speaker but one gave us an instance of a boy who was over growing and was sent out west and followed the occupation of a cowboy That coincided with what I said that they should have pure air and pure eating and should change their diet to a different line He mentioned an instance where a youth grows too fast, the muscles outweighing the conditions of the brain We know there are some people who keep on growing until the time that they die Some plants we know will grow forever The oak tree will grow a thousand years The reason is that they have that in them which is trying to balance the formative power or the building up of the organism, and life is in no hurry to leave them I believe that what has been said in the way of remarks on the second paper would apply very well to mine

Dr EDWIN ROSENTHAL Philadelphia—The question of adolescence has been brought forcibly to my mind in the cases of young ladies suffering from chlorosis or rheumatism or chorea, and the only way we can cure them is to take them away entirely from their usual work and place them among the ages, and in that way you can build up the nervous system so you can cure them of the nervous diseases If you take the half grown boys who have ear aches and who pay attention to their faces to press out the little comedones and imagine they are ill, it is just as important that they should be treated as if they were affected with typhoid fever You will find each of these boys has a specific They have a book in their pocket which tells all about the hundred and one things they have It is true the stomach is the cause of a great deal of this disease, for if they get a little wind in the colon, away they go into hysteria The only way you can cure them is to bring them down to nature, send them out to farms or out here or to the army But with medicines the patients grow up to be invalids the kinds the books in the drug stores tell us about

DR LOUIS FAUGLRES BISHOP, New York City—I think the object of the paper has been fulfilled I drew attention to this condition I did not mean to neglect these girls by using "he" but I meant that to cover the whole race

TETANY IN INFANCY, WITH A REPORT OF SIX CASES

Presented to the Section on Diseases of Children at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY JOHN LOVETT MORSE, A M, M D
Physician to Out-Patients at the City Hospital and at the Infants Hospital Boston Assistant in Clinical Medicine, Harvard Medical School
BOSTON MASS

Very great differences of opinion exist with regard to what constitutes tetany, as well as to the frequency of its occurrence and its etiology and pathology

It is generally accepted that the most characteristic symptom of tetany is muscular rigidity, this rigidity occurring as intermittent paroxysmal contractures The duration and intensity of the contractures vary, in some cases being long and remittent, in others fleeting and occurring at long intervals The extent of the contractures also varies within wide limits, the seat par excellence, however, being in the muscles of the arms, especially of the fore arms The positions assumed by the hands and feet during these contractures are very characteristic The fingers are flexed at the metacarpo phalangeal joints, while the phalanges are extended The thumb is strongly adducted in the extended position The wrist is acutely flexed and the hand turned to the ulnar side The elbow- and shoulder-joints are not involved in the milder cases The feet are strongly extended, sometimes in the position of pure equinus, but more often in that of equino varus The first phalanges of the toes are strongly flexed, the others extended The knee- and hip-joints are usually free Opisthotonos is not very uncommon in the severe cases Associated with the contractures are other symptoms, some or all of which are present in every case These are Increased electric excitability of both nerve and muscle to faradism and galvanism, with changes in the qualitative reaction to galvanism This is often known as Erb's symptom and is probably the most constant Increased mechanical excitability of both nerve and muscle Special examples of this are the occurrence of characteristic contractures as the result of pressure on the large nerve trunks and arteries, "Trousseau's symptom," and spasm of the facial muscles when the skin over the trunk of the facial nerve is irritated or the nerve is struck a sharp blow, "Chvostek's symptom" or the "facialis phenomenon" Laryngospasm Convulsions Sensory disturbances, including pain on motion and during spasms, as well as many others impossible to determine in infants Vasomotor and trophic disturbances, the most characteristic being edema of the wrists and ankles Fever, which is inconstant and intermittent The intelligence is always unimpaired, even during the paroxysmal contractures

All agree that the presence of the peculiar paroxysmal contractures justifies the diagnosis of tetany There is great difference of opinion, however, as to whether the presence of one or more of the other symptoms without contractures justifies the diagnosis It is to this condition that the term "latent tetany" is applied Even here, however, there is no consensus of opinion, some apparently limiting the term to the condition in which irritation of the muscle or nerve brings on contractures which are otherwise absent, while others consider the presence of even one symptom as pathognomonic and sufficient for the diagnosis As a rule, those who recognize the existence of latent tetany consider it the same as tetany, differing from the latter only in degree If these symptoms are to be considered as pathognomonic and sufficient for the diagnosis of tetany, whether the characteristic contractures are present or not, they should be always present where there are contractures and should never occur in other conditions Trousseau's symptom and the facial phenomenon are sometimes absent, and often only temporarily present when there are typic contractures Moreover, Trousseau's symptom is often met with in hysteria, while the facial phenomenon is found in many other conditions, as epilepsy, hysteria, phthisis and neurasthenia Laryngospasm is frequent in tetany, but not constant, and is often seen in children who have no other symptoms of tetany Convulsions and disturbances of sensation, as well as vasomotor and trophic disturbances, occur in many other diseases It is evident, therefore, that these three symptoms—laryngospasm, Trousseau's symptom and the facial phenomenon—are not constant in cases which show the typic contractures of tetany, and that they occur in many conditions in which there is no question of tetany Hence they can not be considered as pathognomonic of tetany, and do not, either singly or in combination, afford sufficient ground for the diagnosis either of tetany or latent tetany They must be regarded merely as particular instances of increased mechanical or reflex excitability which may be the result of a very great variety of causes and pathologic conditions The only pathognomonic symptom of tetany, therefore, is spontaneous, intermittent, paroxysmal muscular contracture The term "tetany" should be applied only to those cases in which this symptom is present, and no cases of increased reflex excitability in which this symptom does not occur should be regarded as examples of the disease The term "latent tetany," is therefore a misnomer and should be dropped

ETIOLOGY

Numerous theories as to the etiology of tetany have been advanced, and have found vigorous defenders and opponents The question is still unsettled, however, probably partly on account of the differences of opinion as to what constitutes tetany, and partly on account of the inherent difficulties of the subject The theory of the older authors that it is of rheumatic origin has long been given up The position that it is merely a manifestation of hysteria must also be regarded as untenable The theory that it is cerebral in origin was founded on an erroneous conception of the disease, and is no longer accepted The theory that it is a variety of acute anterior poliomyelitis can not easily be set aside, however, as certain quite definite lesions have been found in the anterior horns As the cases of tetany which do not die of some intercurrent disease nearly always recover, these lesions must, as a rule, be transitory They may very probably be frequently due to the action of toxic substances in the circulation, the result of diseased conditions elsewhere

The most ardent and extreme advocate of the rachitic theory is undoubtedly Kassowitz His line of argument is somewhat as follows Craniotabes is a lesion of rickets Craniotabes may be represented only by meningeal hyperemia, and hence be incapable of demonstration Laryngospasm is due to craniotabes Laryngospasm is a symptom of rickets Other symptoms of increased neuro-muscular excitability are seen in rickets They are of the same nature as laryngospasm and hence due to the same cause Laryngospasm and other nervous manifestations are symptoms of tetany, in fact, they are tetany Hence tetany is a symptom of rickets

There are many obvious objections to this reasoning It is not proven that craniotabes is the cause of laryngospasm, or that meningeal hyperemia produces the same results as craniotabes Moreover, laryngospasm occurs in tetany when there is no evidence of rickets, in rickets when there are no other evidences of tetany, and alone when there are no evidences of either tetany or rickets

Although not agreeing with the extreme views of Kassowitz, most of the German and Austrian authorities have accepted the rachitic theory in a more or less modified form Some of the arguments in favor of this view are, that almost all cases of tetany show evidences of rickets, that they are both more frequent in winter, and that they occur in children of the same age Some of the arguments against it are, that very many cases of other diseases than tetany show evidences of rickets, that the symptoms of increased neuro-muscular excitability, with the exception of laryngospasm, are rare among rachitics, and that tetany is more likely to occur in mild than in severe cases of rickets The fact that rickets is common all the year round, although much more so in the winter, while tetany very rarely occurs in the summer, would seem to point to some common cause for both conditions which is active only in the winter This cause is most probably the indoor life of the winter, with its lack of sunlight and oxygen and its exposure to noxious vapors These furnish the opportunity for the formation of respiratory toxins which may produce changes in the circulation that lead to malnutrition of various tissues with subsequent symptoms

Several theories locating the origin of tetany in the gastro intestinal canal have been advanced These have received their main support from the French authorities The dehydration and reflex theories need be mentioned only to be set aside That of auto intoxication, however, is worthy of careful consideration The friends of this theory say that tetany is almost always associated with diarrhea or other digestive disturbances They say that the reason that all children suffering from indigestion do not have tetany is that some peculiar chemic combination is necessary, or because their nervous system is insusceptible When tetany occurs in infants who present no symptoms of indigestion, they assume that the nervous system is easily affected or that this peculiar chemic combination may be produced without causing other symptoms They also state that when the digestive disturbances are relieved the tetany ceases They attribute the frequency of tetany in rachitis to the gastro-enteric disturbances of this disease The opponents of this theory say that gastro enteric disorders are very common and tetany very rare that digestive disturbances are more common in summer and tetany in winter, and that the only basis for the assumption of peculiar susceptibility or special chemic combinations is in the imaginations of the originators

The most recent, and perhaps the most plausible, theory assumes that there is no single pathologic cause for tetany, but that, like epilepsy, it may arise from many causes Like epilepsy, too, it must be regarded merely as a nosologic entity, and not as a definite disease In improper hygienic surroundings, in rickets, in gastro-intestinal disorders, in acute disease, and in various intoxications are present conditions capable of causing the formation of various toxic substances The action of all these poisonous substances may show itself by a special modification, rather functional than organic, of the central or peripheral nervous system The various lesions of the nervous system found in tetany are not inconsistent with this conception

MORBID ANATOMY

The lesions which have been found in the nervous system in tetany are very variable Tonnelle, Blondeau, Grisolle, Trousseau and Bouchut have found hyperemia of various portions of the brain and cord and their meninges, Weiss, Bonome, Cervesato and Sarbo various degrees of poliomyelitis of the cervical enlargement, Stasse, Niemayer and Schultze peripheral neuritis, and Loos, Berger and others no lesions The most characteristic lesions, however, are probably those in the cells of the anterior horns in the cervical enlargement These vary in degree from hyperemia and swelling to atrophy and sclerosis, the severity of the process probably depending on the duration and intensity of the disease It is probable that certain lesions in this region are present in all cases, but that in recent ones they are too superficial to be recognized Whether they are primary here or secondary to an ascending neuritis is at present entirely undetermined As they have not been found constantly, however, further verification is necessary before they can be accepted as the essential lesions of the disease Nevertheless, they do correspond more closely to the symptoms of the disease than any other lesions which have been described, and seem at any rate to afford a fairly satisfactory explanation for them

FREQUENCY

The frequency of tetany must naturally depend on the definition of the disease which is accepted If the presence of symptoms of increased neuro muscular excitability is considered as evidence of latent tetany, and latent tetany is classed as tetany, the disease will be frequently encountered If however, only those cases in which the typic paroxysmal contractures are present are regarded as tetany it will be seen much less often This [illegible] classification undoubtedly explains [illegible] the much greater frequency of t[illegible] and Austria than in France [illegible] entirely account for the discrepancy, however, and there is probably but little doubt that tetany, even in the strict interpretation of the term, is much more common in the first-named countries It is still less common in this country, being, indeed, something of a rarity Griffith, in addition to five cases of his own, was able to find but seventy-two cases reported in American literature up to 1894, although he included in his list a number of cases of muscular spasm, which, strictly speaking can not be accepted as cases of tetany In a careful review of American medical literature from Jan 1, 1894, to Jan 1, 1898, I am able to find but thirteen additional cases They are, in brief, as follows

1 Lewi Nine months Constant, typic spasm in hands Arms and legs painful One convulsion Spasm became remittent, then ceased Duration, three weeks Neurotic family history Rachitic No craniotabes No gastro intestinal disturbances

2 Lewi Eight months Typic, intermittent spasms in hands and feet, lasting hours or days Hands and feet tender and painful Increased electric reaction Duration, six weeks Recurrent attack two months later with death in convulsion An older child had had disease Rachitic No craniotabes Gastro intestinal disturbance always Constipation during attack

3 Lewi Eight months Typic, continuous spasm in hands and feet Hands and feet swollen, tender and painful Increased electric reaction Duration, two weeks Rachitic No craniotabes Vomiting Constipation

4 Lewi Thirteen months Remittent spasm in hands and feet, most in hands Hands and feet swollen, tender and painful Laryngismus stridulus Duration, two weeks An older child had had disease Markedly rachitic No craniotabes Vomiting Constipation

5 Crandall Six months Began with peculiar attacks of staring In a month well marked and typic paroxysms, involving neck and all extremities, lasting one and a half to two hours Five to eight attacks in twenty four hours No laryngismus stridulus Duration, eight weeks Moderately rachitic No craniotabes Poor breast feeding Diarrhea, later constipation Phimosis Correction of phimosis had no effect Complete recovery in eleven days after correction of diet and relief of constipation

6 Crandall Eleven months Twelve to twenty four attacks of laryngismus stridulus and convulsions in twenty four hours Duration, two minutes Spasms fairly typic Duration, three weeks Markedly rachitic No craniotabes Breast and general diet Vomiting Alternate diarrhea and constipation Recovery in two days after correction of diet and cathartic

7 Preston Three and a half years Typic spasms in arms, less so in legs, lasting a few minutes, intervals of months or ten to fifteen in twenty four hours No pain Trousseau's symptom present Began at one year Duration unknown

8 Krauss Six months Typic paroxysms, continuous for two weeks at height of attack Much pain Swelling of face and extremities Trousseau's symptom present Duration, five weeks No note as to rickets Artificial food Constipation, then diarrhea Dentition

9 Krauss Eighteen months Mild attacks, lasting a few minutes, at intervals of half an hour to two hours Duration, one week No note as to rachitis Vomiting Diarrhea Bronchitis

10 Krauss Thirteen months Mild attacks, lasting five to ten minutes, several times, daily Duration, sixteen days No note as to rachitis Gastro intestinal disturbance Bronchitis

11 Krauss Nine months Paroxysms, involving hands and legs Duration, three weeks No note as to rachitis Bronchitis

12 Krauss Eleven months Remittent paroxysms, most severe in arms Duration, two weeks No note as to rachitis Severe gastro intestinal disturbance Dentition Bronchitis

13 Carpenter Eleven months Tonic spasms Laryngismus stridulus Recovery, slow Mild recurrence for several years No note as to rachitis Followed purulent effusion in shoulder joint after scarlet fever

A case reported by Miles as tetany, and another by Carpenter are probably cases of tetanus In another, reported by Carpenter, the diagnosis was based entirely on laryngismus stridulus, and, therefore, can not be accepted

The disease is certainly a very unusual one in Boston, as is shown by the following statistics from the Medical Out-Patient Department of the Infants' Hospital, during the last two years The great majority of the patients treated there are infants under two years of age, belonging to the poorest classes Both their age and hygienic surroundings would seem likely, therefore, to render them especially favorable subjects for the development of both rickets and tetany Seventy-one hundred and fourteen cases of disease were treated during the years 1896 and 1897, and among them was one case of tetany One hundred and ninety-six were classified as rickets This number, however, comprises only those cases in which rachitis was the condition demanding treatment, and does not include the far greater number of cases in which rickets was present as a complication The one case of tetany which is reported in full below, showed but few evidences of rickets It would seem from these figures, therefore, that rachitis is not a factor of great importance in the etiology of tetany I have, during the last five years, seen six cases of tetany in infants Three were mild and three severe The histories of these are as follows

Case 1 —Annie P, four months old, was seen at the Massachusetts Charitable Eye and Ear Infirmary on account of a suspicious eruption The mastoid disease, for which an operation had been performed some days before, was progressing favorably Nothing was known as to her history, and the contractures had not been noted There was slight diarrhea and the temperature was moderately elevated Handling was somewhat painful There were frequent, short, typic paroxysmal contractures of the hands and arms No laryngospasm, facial phenomena absent, Trousseau's symptom easily elicited, knee jerks exaggerated There were no evidences of rickets She unfortunately soon passed out of observation, and nothing is known as to the further progress of the case

Case 2 —Gladys R, colored, four months old, was brought to the Infants' Hospital chiefly because she did not gain weight She had always been feeble, and was said to weigh less than at birth She had been fed on a varied collection of patent "foods," the mixture at the time being one of Mellins' Food and boiled milk She had all of this mixture which she would take at any time There was no vomiting, some abdominal pain, and a moderate diarrhea She had 'spasms" frequently, in which she "wriggled and clenched her hands" No laryngospasm She was poorly developed, but fairly nourished There was no evidence of rickets During the examination there were frequent short, intermittent, typic contractures in the arms and hands There was apparently no pain, either on handling or during the paroxysms The facial phenomenon could not be obtained, but Trousseau's symptom was easily elicited She was given a carefully modified milk, but no drugs When seen, eight days later, she had gained ten ounces, and the gastro intestinal symptoms had diminished greatly There had been no spasms for some days Trousseau's symptom, however, was easily developed She was then lost sight of, and nothing is known as to the final outcome of the case

Case 3 —Rebecca B, ten months old, was brought to the Infants' Hospital, May 6 Since the first of January she had had one or more "spasms" a day, lasting from a few seconds to five minutes They also sometimes occurred during sleep In these "spasms" the upper part of the body stiffened, the arms were flexed at the elbows, the thumb contracted into the palm, and she "got black in the face" For the same length of time she had had frequent attacks of noisy breathing An older child had had a similar trouble, lasting a month at one time She was fed on breast milk and on a mixture of cow's milk and water She seldom vomited, and the dejections were normal, except for an occasional curd Her surroundings were very good for a child of the poorer classes She was well developed and nourished Color good Skin normal Anterior fontanelle, six c c by eight c c No craniotabes Two teeth Spine normal Heart and lungs normal A considerable rosary Flaring of lower chest Abdomen large Spleen palpable Epiphyses at wrists enlarged During the examination she had a typic contracture, involving the arms only, lasting about half a minute She also had several attacks of laryngospasm The facial phenomenon was easily elicited, but Trousseau's symptom could not be produced The reflexes were normal She was put on a carefully modified milk in addition to the breast, and given small doses of bromid The spasms ceased on the 10th and the laryngismus on the 23d The facial phenomenon was present on the 10th, but had disappeared on the 13th No new symptoms developed

Case 4 —James C , six months old, was seen in consultation with Dr J L Ames, Jan 25, 1898 He was a large, strong baby at birth, but was completely upset by improper feeding during the first six weeks From that time on his digestion was feeble, although he was carefully and correctly fed He did not gain normally, and vomited from time to time The stools, however, were normal His care and surroundings were irreproachable On the 19th day he began to vomit again, but his dejections remained normal He cried much, and seemed to be in pain His temperature ranged in the neighborhood of 100 degrees Slight "clenching of the hands,"—first noted on the 20th—gradually increased He had a mild 'spasm" on the 23d He was cutting several incisor teeth The urine was diminished in amount He was fairly developed and nourished Skin in good condition, rather pale Fontanelle level —not tense One tooth, gum distended by another Slight stomatitis No rosary Heart, lungs and abdomen normal Moderate umbilical hernia Phimosis No rigidity of neck, but tendency to hold head backward Remittent contractures of hands and feet, apparently not attended by pain Extended thumbs strongly adducted into palms Little and ring fingers flexed at metacarpo phalangeal joint, extended at phalangeal, other fingers firmly flexed Slight flexion at wrists Elbow and shoulder joints free Feet in perfectly typic position Toes sharply flexed at metatarso phalangeal joint, extended at phalangeal Foot much arched and extended Knees and hips flexed Reduction of spasm not painful Facial phenomenon doubtful Trousseau's symptom easily elicited Knee jerks lively

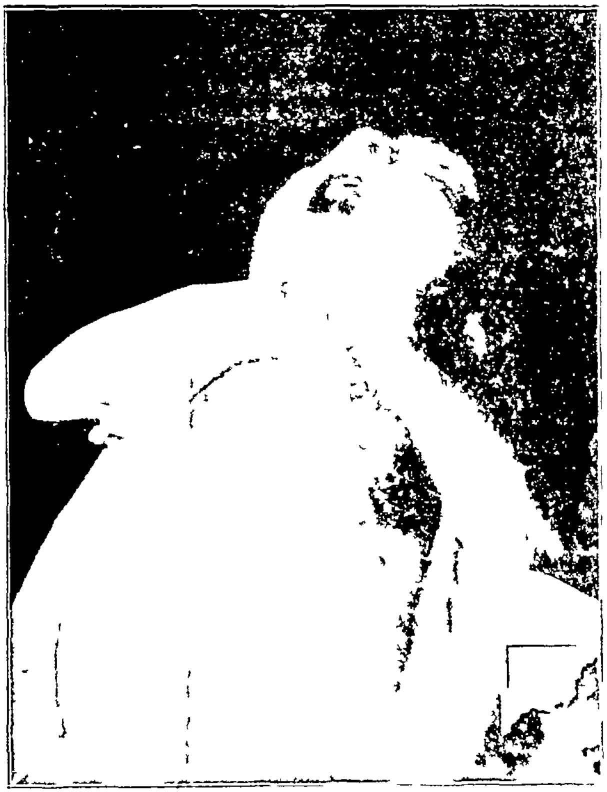
He was given a different modification of milk, calomel, salol and bromid The further treatment was on these same lines He had numerous spasms during the next few days and the paroxysmal contractures increased in severity Under careful feeding all the symptoms of indigestion disappeared during the next month, but there was no gain in weight After the first week the contractures diminished rapidly in frequency and severity and were entirely gone in a month

Case 5 —John W four months old, was brought to the City Hospital, Oct 21, 1897 There was no specific history, and the other children were in every way normal He was born at full term, after a rapid, normal, vertex labor Convulsions are said to have begun on the day of his birth, and to have continued until some time in July The mother also states that she noticed contraction of the fingers after the first convulsion, and that it has persisted since I saw him at the Infants' Hospital in July, however, but noticed no contractures I sent him to the Summer Hospital at Rainsford Island, with the diagnosis of "starvation" He remained there for some weeks, but no contractures were noted

He was fed on condensed milk previous to his admission to Rainsford, and on modified milk during his stay there He was then given Mellins' Food, which he was taking when seen He had been vomiting for some weeks The bowels moved two or three times a day, the dejections being large, yellowish white and undigested He slept but little and cried constantly "The whole body was constantly rigid, the spasm not even relaxing in sleep" Motion was painful

Poorly developed and emaciated, skin dry, fontanelle level, snuffles, no teeth, mouth normal, tendency to laryngospasm when crying, unable to hold up head when sitting when lying, head held backward stiffly, but spasm can be overcome, facial phenomenon not obtained heart and lungs normal, no rosary, abdomen large and tense, slight umbilical hernia, no enlargement of liver or spleen, phimosis, no glandular enlargement, arms held rigidly flexed at the elbow, shoulders also somewhat rigid, wrists slightly flexed, hands in pronation extended thumbs very strongly adducted across the palms, fingers flexed at metacarpo phalangeal and first phalangeal joints, extended at the second This spasm varied in intensity but was never voluntarily relaxed It could be almost entirely overcome, but only with the causation of considerable pain Trousseau's symptom was not determined because of the constant spasm There was a tendency to hold the legs crossed, and at times the knees were flexed and the feet extended The spasm was always very slight however, and was easily overcome, knee jerks exaggerated electric reactions and sensation not determined

Warm baths and light rubbing were advised He was put on a properly modified milk and given small doses of bromid of potassium Improvement in the digestive symptoms was almost immediate and was soon followed by improvement in the nervous symptoms By November 7 the spasms were intermittent, occurring only at intervals, and the arms and legs were used a little voluntarily Trousseau's symptom was easily elicited By November 27 the spasms were very infrequent and of slight intensity and all motions were free All trace of spasm disappeared some weeks later and Trousseau's symptom could not be elicited There has been no recurrence of the symptoms



John W

Case 6 —Sherry M , 10½ months old, was seen at the Infants' Hospital June 1, 1897

Family history No tuberculosis nor syphilis, father and mother each 29 years of age and well

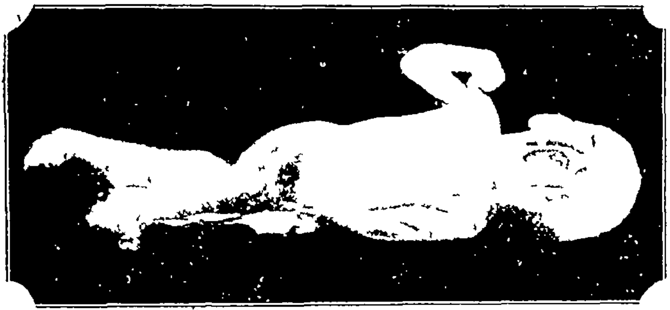
First child—Instrumental, nursed, always well

Second child—Instrumental, nursed always well

Third child—Instrumental, nursed only, well up to 11 months, when had an attack of vomiting and diarrhea and began to stiffen Vomiting constipation and wasting continued and stiffness increased and continued up to death at 18 months Had no food but breast and beef juice

Fourth child—Instrumental, nursed only well up to 7 months, when had a cough and cold followed by vomiting, constipation, wasting and gradually increasing stiffness ending in death at 11 months Food was breast, cream and orange juice

Fifth child—The patient Normal vertex labor, was well up to 7 months, when it was noted that she was not as active as she had been Vomiting began and increased, also constipation, which grew steadily worse, the bowels moving only with drugs At 9½ months she began to hold her head backward, and for the last three was in much the same condition as when first seen She had the breast only until her sickness began, but after that was given in addition oatmeal gruel, milk and beef juice and during the last few days a modified milk She slept but little, and cried almost constantly All motion seemed to cause pain and increased and brought on spasm The spasm was never entirely relaxed even during sleep Fairly developed and nourished Skin smooth and soft Color fair fontanelle normal size heart lungs and abdomen normal, no rosary no glandular enlargement, the arms and legs were in a state of almost constant contracture which never entirely relaxed Any motion or excitement caused an increase of the spasm with crying During the more intense spasms the head was much retracted and the back [illegible] the position of moderate opisthotonos Respira[illegible] chest being fixed in the position [illegible] The were rigid, their position, however, varying in different attacks The thumbs were always strongly adducted in full extension The fingers were flexed at the metacarpo phalangeal and first phalangeal joints and extended at the second, sometimes extended at the first phalangeal joint also The legs were held rigidly, the thighs being crossed, the knees extended, the feet slightly extended and the toes flexed The facial phenomenon was not elicited, Trousseau's symptom was marked, the knee jerks were normal The electric reactions and sensation were not examined



As the history of the other children suggested some trouble with the breast milk, and as this child did better on a mixture of modified milk and breast milk than on breast-milk alone, the nursing was stopped and she was given modified milk only She was also given small doses of bromid of potassium There was no improvement in the spasm, vomiting and constipation There was also a progressive loss of weight and a continuous temperature, ranging from 99 to 100 degrees She was therefore sent to the Summer Hospital at Rainsford Island on June 14 and remained there for more than a month While there she vomited constantly and lost weight steadily The dejections, however, were normal Her temperature ranged from 99 to 101 degrees The contractures continued undiminished During the next three weeks she improved in every way She cried less, slept all night and had spasms only when disturbed The symptoms increased again, however, and she was lost sight of until November 22 During this time she was kept on a modified milk of very low percentages, ordered when she was last seen She had emaciated to a skeleton, and was very weak She was vomiting a little The bowels were constipated but the dejections were normal in character She slept well and relaxed entirely during sleep She was quiet when awake but had more or less spasm most of the time As she was then sixteen months old she was given starchy foods in addition to milk Passive motion and light rubbing were also advised Improvement from this time on was slow but progressive The vomiting ceased but the bowels remained somewhat costive Gain in weight and strength was steady The spasm diminished slowly, remaining longest in the hands It left them about March 1, 1898

TREATMENT

It is evident from the obscurity which still exists with regard to the origin and nature of tetany that there can be no specific treatment As what evidence there is, however, all seems to show that the disease is due to toxic poisoning of some sort, treatment may be directed to the prevention of the formation of toxic substances, and to their elimination, if already formed It is probable that many of these toxins are absorbed from the alimentary tract and some from the respiratory tract Others may be produced as the result of abnormal metabolism The production of alimentary toxins can be best prevented by a suitable diet Regulation of the diet is probably, therefore, the most important method of preventive treatment Intestinal antiseptics may also be of use, and are, at any rate, worthy of a trial The formation and absorption of respiratory toxins can be best prevented by a liberal supply of fresh air and sunlight Anything which tends to improve the hygienic surroundings is of use Elimination must naturally take place largely through the intestinal tract, and to a less extent through the kidneys and skin Emetics, purgatives and lavage of the stomach and colon tend, not only to favor elimination, but also to prevent the absorption of toxic substances already formed The kidneys must be kept active by a liberal supply of water and possibly by mild diuretics The skin may be stimulated by proper hygienic measures

Symptomatic treatment is also important and consists largely in the avoidance of excitants of spasm and in the employment of antispasmodics Excitants to be avoided are cold, handling, noise and excitement Antispasmodic treatment may be local, by the use of such measures as warmth, warm baths, inunctions of oil and light massage, or general, by drugs The bromids and chloral are the most useful, but opium, belladonna, valerian and musk may be tried During convulsions chloroform or ether may be administered by inhalation

LITERATURE

Blondeau Quoted by Oddo
Bonome and Cervesato La Pediatria, 1895 No 5 and 6 Revue des Mal de l Enfance, Feb 1896
Bouchut Lec recueilli par Juhel Rénoy Paris Méd 1879 No 50
Carpenter JOURNAL AMERICAN MEDICAL ASSOCIATION 1894 xxiii, p 182
Cassell Deutsche Med Woch 1897, No 5
Chvostek Wien Med Presse, 1876
Comby La Médecine Infantile, 1894, No 4
Crandall Archives of Pedriatics, 1895 xii, 920
Erb Archiv f Phys iv, 271
Escherich Wien klin Woch , 1890 No 40 Berlin klin Woch 1897, xxxiv 861 Traité des Maladies de l'Enfance Vol iv, Paris, 1898
Fischl Therapeutische Woch 1896 iii 973
Frankl Hochwart Die Tetanie Berlin 1891 Die Tetanie Spec Path u Therap , Nothnagel Wien 1897, xi, t 2 ab 4 79 207
Griffith Am Journ Med Sciences, 1895 cix 158
Grisolle Quoted by Oddo
Hauser Berlin klin Woch , 1896, xxxiii 661 782
Heubner Deutsche Med Woch 1896 No 29
Kalischer Revue des Mal de l'Enfance 1893 xi, 137 Jahrb f Kinderheilk , 1896, xlii, 387
Kassowitz Wien Med Woch , 1893 No 13 Wien Med Presse 1897 No 5
Krauss N Y Med Record, 1896 xlix 44
Lowi Archives of Pediatrics 1895 xii 602
Loos Die Tetanie d Kind und ihre Berichtungen zur Laryngospasmus Leipzig 1892
Miles Med News, 1896, lxviii, 36
Niemayer Quoted by Oddo
Oddo Révue de Médecine 1896, xvi, 458 572, 667, 749
Orthen Zeitschr f Hyg 1896 xxii 1
Preston N Y Med Journal 1895 lxi 718
Rehn Zeitschr f Hyg , 1896, xxii, 12
Romme Gazette Hebdomadaire de Méd 1897 xliv 73
Sarbo Deutsche Zeitschr f Nervenheilk 1896 viii
Schultze Deutsche Med Woch , 1882 No 20
Stasse Quoted by Oddo
Tonnellé Gazette Médicale 1832 iii No 1
Tordeus Jour de Clin et de Therap Infantile 1897, v, 784
Trousseau Cliniques de l Hotel Dieu ii 207
Weiss Samml klin Vortrage 1881 No 189

NEURALGIA AND NERVE CRIES

Presented to the Section on Neurology and Medical Jurisprudence, at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo , June 7-10 1898

BY CHAS HOWARD LODOR, AM , M D

CHICAGO, ILL

From time immemorial certain phases or symptoms of disease which have been uncertain in their pathology or whose pathology has been unknown, have been classified under general terms, vague and uncertain, and these terms have varied with the ages Time was when the humors of the body accounted for all manifestations of disease which could not be accounted for or classified by the scapel, inspection, or inductive reasoning from the most simple and elementary medical facts Humors have passed, and we now classify such disturbance as manifestations of a diathesis, or of chronic rheumatism or gout, of the presence in the blood of nerve irritants, as uric acid, toxalbumins, auto-infections, etc , or as due to the cries of sensitive nerves for pabulum which an impoverished circulatory medium no longer furnishes them, and call them neuralgia

The longer I study the matter, the more am I inclined to believe that a healthy nerve in a healthy perineurilemma does not ache, or if it does so, the case is rare Furthermore, the term "neuralgia" should be excluded from our vocabulary as an entity, and confined to the very few and rare instances where nerves ache for no, as yet, apparent cause The term itself is a good one but is not so definite and limited as the word "cough," and should not be used except to define a symptom

With such prelude, I take up the study of certain forms of pain not directly associated with a definite cause The sources of pain are many Under the title of my paper, I wish to include only such nerve cries as are not directly and immediately traceable to some evident physical cause For purposes of classification, the source of such pain may lie within the nerve itself or its environment, or may be found in irritants carried to the nerve in question through the medium of the circulatory fluids or in defects in said fluids In the first class may be grouped the following

1, chronic inflammatory processes not recognized as neuritis 2, old adhesions the result of inflammatory products, present after all active inflammatory process has ceased, 3, changes in the perineurilemma from chronic rheumatism and arthritis deformans, 4, pressure from cicatrices and new growths Particularly is this true in syphilis where gummata or periosteal nodes or inflammatory changes about canals, cause pressure upon nerve trunks, 5, reflex, or rather referred pain, particularly common about the fifth nerve, 6, fatigue pains common in the back and about the loins and head, 7, hyperesthesia of certain sets of nerves, and under this head I would include neurasthenia and hysteria

In a second class may be arranged the diathetic causes as follows 1, the accumulation of the gouty acids in perineurilemma and sheath, 2, anemia, collemia, malaria, auto toxins and poisons, as lead, copper and mercury, diabetes, syphilis

A third class might be made of causes for pain following and consequent upon nerve conditions as outlined in the preceding two classes and be tabulated as follows 1, change in blood-pressure, 2, in atmospheric pressure, 3, change in lymph pressure and in lymph constituents

The above classification makes no mention of the crises of ataxia, of eye strain, of the various nerve cries connected directly with the eye, ear, nose, throat, nor with any source of pain usually clearly defined and referable to definite and recognized local disease, and I make no effort in the present paper to cover the whole field which my title might include, but do desire to call attention to certain points which are either overlooked or to which little or no attention is given, and yet which play an important part in the causation of pain

Gray defines neuralgia as a "functional disease of the sensory fibers of the peripheral nerves, and manifests itself by pain" Such definition covers the meaning of the term as ordinarily used, but a closer study of all cases of pain, not related to an organ or definitely diseased part, limits the neuralgia, per se, to narrower and narrower fields, and almost all cases of pain, when full investigation has been made, are better classified under other heads than that of neuralgia

The subjects which have been prominently before me in my studies are 1, the effect produced by inflammatory adhesions and by the products of, and exudates remaining after inflammations, modifying or restricting the functioning of nerves so hampered 2, lymph stasis, 3, the auto nerve poisons

Coming to the consideration of my first cause of pain, namely, nerve cries arising from the local condition of a nerve which has undergone inflammation and whose function is more or less affected and hampered, as the result, there is room for much conjecturing Nevertheless, certain clinical facts point so evidently that their pointings must be true It has been my observation that a patient who has once gone through an attack of neuritis is a most delicate barometer and hydrometer, and the reason is not far to find After a nerve has passed through its history of inflammation, resolution rarely takes place perfectly Three conditions follow in the wake First, a development of connective tissue in the bed of the nerve, tying it down more or less, second, a development of connective tissue in neurilemma and perineurilemma, making the whole envelope of the nerve thicker and less pliable third, and perhaps more important than all, a partial vasomotor palsy and stasis in the intimate vessels of the nerve, due to the general inelasticity As a result, a nerve thus thickened and with poorer circulation will less readily accommodate itself to the varying swing of atmospheric pressure and moisture Making an average, we say that with the ordinary barometric pressure of our latitude a man of 150 pounds is under a pressure of 30,000 pounds, or 15 pounds to the square inch Now let the pressure be quickly changed, especially in the way of taking off pressure, and a healthy vasomotor center responds at once, increases its grip upon blood-vessel structure and the lung speedily unloads the excess of gas held in the fluids under a pressure of one atmosphere and now somewhat reduced Such is not the case with the hampered nerve Owing to its inelasticity and poor vasomotor control, the nerve is under pressure—pressure of blood and pressure of gas—and the owner of that nerve is suffering torment, long before the storm has broken Mills, in his recent work upon the nervous system and its diseases, quotes from Mitchell and Catlin, and shows a diagram clearly establishing a close relation between pain and barometric pressure and the temperature He says at the center of the vast area of every moving storm is a moving space of the greatest barometric depression, known as the storm center, which the rain usually precedes by 550 or 600 miles and around which is a forerunning area of neuralgia

A similar explanation to that given above will account for the neuralgia coincident in our climate with east wind and consequent upon the amount of moisture or rather, dampness, in the air and its conductivity of both animal heat and electricity

The subject of lymph stasis and the daily fluctuations in size of the brain and body are matters of only passing moment to healthy nerve fibers, but, to nerve trunks bound down by the products of old inflammations and with imperfect vasomotor control, such swaying in the peri-vascular spaces and in the lymph-channels may be of great moment The diurnal ebb and flow of lymph, besides the thrice daily ebb and flow, causes a daily change in size of the parts of the body, which change is physiologic It is fairly well established as a fact that the circumference of a limb varies materially in the twenty-four hours being smallest in the morning, at the time of lowest temperature, and largest in the late afternoon and evening, when the daily temperature swing has reached its highest point This fact offers a ready explanation of the difficulty which rheumatic and gouty patients, whose vaso constrictors are more feeble and whose lymph-channels are especially prone to fill in the evening, have in wearing articles of clothing in the evening which were comfortable in the morning. The same character of reasoning will explain the evening ache of dentals when the nerve is no longer actively inflamed but is surrounded by an area if not of infiltration, of lowered resistance. The curious and intense ache present in Morton's metatarsalgia, coming on after sundown and particularly noticeable after a full meal, was somewhat difficult of explanation until the lymph-tide was recognized as a possible cause for the disturbance. It has been a common observation that the extremities swell, or rather increase physiologically, in size toward the close of the day, and the development of pain has been rightly ascribed to such increase in size, but why such increase took place remained a mystery, excepting as the increase in size of peripheral blood-vessels might account for it.

Physiologists, such as Starling and Heidenhain, are busy thrashing out the truth of lymph excretion, of lymphagogues, and lymph secretion, and the war goes on right merrily. From the facts thus far established it would seem that the endothelial cells of blood-vessels do not actively excrete lymph, but as in the case of the kidney, exert a selective action upon the plasma so that certain substances are strained or sieved through. Lymph is not of the same specific gravity as the plasma of the blood. It may contain an excess of proteids, also of tissue waste, as urates and uric acid. L. B. Mendel in the *Journal of Physiology*, Vol. xix, declares it is never of the same specific gravity as the blood, and contains a larger proportion of sodium chlorid and of sugar than is found in the blood.

Heidenhain has called attention to the existence of two classes of bodies which, when injected into the circulation have the power of largely increasing the flow of lymph. The *first class*, which includes peptones, extract of crayfish, mussels, etc., and at times, egg albumin, acts particularly by greatly increasing the exudate from the blood, making both blood and lymph over concentrated. The *second class*, such as sugars and neutral salts, acts on the tissues, robbing them of water, making both lymph and blood more watery.

The above facts may eventually assist in solving the curious nerve and circulatory disturbances which we see after the ingestion of certain articles of food, and particularly when there are individual idiosyncrasies. It would also help to explain the phenomena of angio-neurotic edema. Owing to the readiness with which uric acid is thrown out of the general circulation and the lessened resistance of certain nerves in the gouty and lithemic, and the fact that the lymph-channels make ready bayous for gouty salts, we have added means for comprehending gout neuralgia.

The part played in the production of pain by my third division of causes for pain, namely, the various substances in the body produced by imperfect tissue metabolism or turned into the circulation by resorption from the intestinal tract, is engaging our attention more daily, as studies are being pushed deeper into the unknown domain of digestion and assimilation in the circle outside the intestinal tract. That the presence in the blood of certain substances which are inimical to healthy nerve life does cause pain is beyond question. The gouty and lithemic are particularly prone to neuralgia, so are the syphilitic and alcoholics, and those who suffer from intestinal fermentation, all which disorders are recognized as potent in causing dyscrasia of the blood. Diabetes is an exciting cause for polyneuritis, but is also causative of nerve cries which can not be ascribed to neuritis. Von Noorden states that the earliest sensory disturbances to be found in diabetes are paresthesia, anesthesia and hyeresthesia of varying degree and location, and pain and cramps. These neuritic symptoms appear very early, and may be among the first symptoms of which complaint is made, and the painful areas are located more usually in the third branch of the trigeminal and in the crural nerves.

Haig, in his last edition of "Uric Acid in Causation of Disease," makes casual mention only of uric acid as causing neuritis. He states it as the cause of everything from gout to anemia, chlorosis to melancholia, but as a grave cause of neuritis or of nerve pain, only hints. Marshall, years ago, recognized the fact that odontalgia was not caused by dental caries alone, but that many a gouty patient would have an intense odontalgia after a heavy meat and champagne dinner without any cause to be found in the teeth per se, and that such pain did not yield to the ordinary dental measures, but to attention directed to the body condition at large. Pope justly calls a combination of alcohol, tobacco and a late supper, "a powerful trinity in the causation of neuralgia."

Whether uric acid or the biurates be the cause of gout, certain it is that the gouty are especially prone to most obstinate and severe forms of neuralgia and that these attacks are often recurrent and paroxysmal and prone to resemble articular explosions of gout. Lyman states that no part of the body escapes their incidence, and their duration varies from the most transient fulgurant pain to the un intermitting and persistent agony of chronic inflammation. Gout particularly affects the sciatic nerve, next the trifacial and intercostals. If the statement that "a nerve once inflamed is a point of lessened resistance afterward" be true, it is not hard to understand why gouty nerves should be prone to suffer. The lowering of external temperature causes a rise in acidity in the extremities of the body. Such acidity favors the throwing out of circulation and the precipitation of gouty acids.

In concluding I wish to call attention especially to the influence upon the general nerve structure and particularly upon the higher nerve centers of the lymph-flow and its constituents. The readiness with which sugar and the lithemic salts pass out of the general blood circuit into lymph-channels, and the irritating effect of such materials, has helped me to understand many nerve cries obscure in their origin. That delicately balanced condition of body economy which Haig dwells upon as collemia, in which the circulatory fluids of the body are saturated with lithemic products held in solution by the alkalinity of the blood and requiring but the slightest change in alkalescence to deposit or throw down such salts, explains beautifully the rapidity with which sudden neuralgia may take place from apparently slight perturbing causes. It is wise in all cases of obscure nerve pain to hunt farther for its cause than is to be found in the self-satisfying term "neuralgia."

Orthoform.—In prurigo and herpes zoster orthoform has been found extremely effective by Horn. He uses it as a dry powder or in a 10 per cent. salve.—*Die Arztl. Praxis*, 13.

A FURTHER CONTRIBUTION TO THE STUDY OF THE DIFFICULTIES OF DEFECATION IN INFANTS

Presented to the Section on Diseases of Children at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo , June 7 10 1898

BY THOS CHAS MARTIN, M D
LECTURER ON DISEASES OF THE RECTUM IN THE COLLEGE OF PHYSICIANS AND SURGEONS
CLEVELAND, OHIO

At last year's meeting of this Section I offered for inspection a score of dried specimens of the infant's lower intestine as evidence that the infant strains at stool because of the imperfect development of the anatomic features concerned in the mechanism of defecation Examination of those specimens revealed the fact that the wall of the infant rectum and sigmoid flexure is thin, compared to that of the adult It was impossible to distinguish the longitudinal muscular bands which are so apparent in the gut of the adult It was observed that in the fresh state the mucous membrane constitutes a greater part of the gut wall of the infant, and that the mucous membrane and muscular coats are more intimately adherent than in the adult The infant gut being very deficient in muscular elements, the intrinsic power of peristalsis can not be present in that degree necessary to it as a component factor of defecation It was shown that the relations of the peritoneum to the rectum of the infant also contribute to the difficulties of defecation, as also does the relatively great length of the descending colon and sigmoid flexures

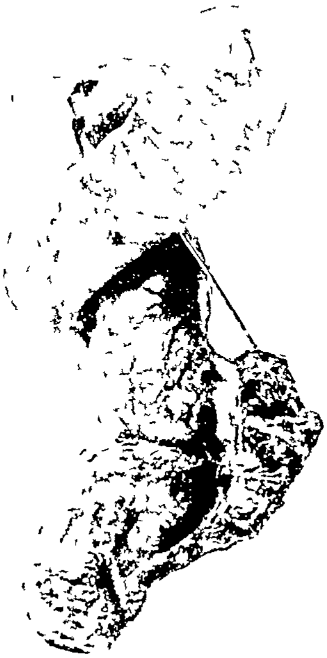


Fig 13 —Side view of specimen shown in Fig 12 The mesentery from sacrum and coccyx to the rectum is fairly well shown but is shown shorter than in the fresh state, alcohol immersion, varnishing and drying having shrunken it Observe also how nearly the peritoneum approaches to the anus

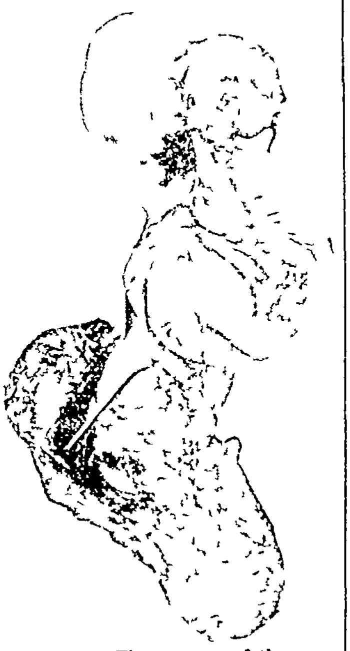


Fig 14 —The reverse of the view shown in Fig 13

In the child the mesentery of the sigmoid flexure and rectum is of great length In young children the length of the sigmoidal mesentery from its attachment to the parietes to its invagination of the lower loop of the sigmoid is often greater than the distance from the promontory of the sacrum to the distal bone of the coccyx From the sigmoido rectal juncture to the beginning of the middle third of the rectum the mesentery rapidly shortens, but apparently completely invests the upper third of the rectum (See Figs 13 and 14) The middle and lower thirds of the abdominal rectum are not so completely invested with peritoneum, and present upon their posterior parts a vertical lane bare of peritoneum from the borders of which the peritoneum is reflected in lateral directions This uncovered part of the gut is not applied directly to the sacrum and coccyx, and there is a space between, which is occupied by loose connective tissue The distance from the dorsal parietes to the gut is variable here, being from one half to one fourth of an inch—1 27 to 63 cm At the beginning of the middle third there is usually a gradual decrease in the length of the peritoneal band as it descends, till it is one eighth or possibly one-sixteenth of an inch— 32 or 16 cm —in length at the last bone of the coccyx it rapidly shortens from this point to its termination The parietal peritoneum descends over the ischial tuberosities and approaches nearly to the ental sphincter muscle In the newly born the peritoneum is situated within one fourth inch— 63 cm —of the anal skin (See Fig 13)

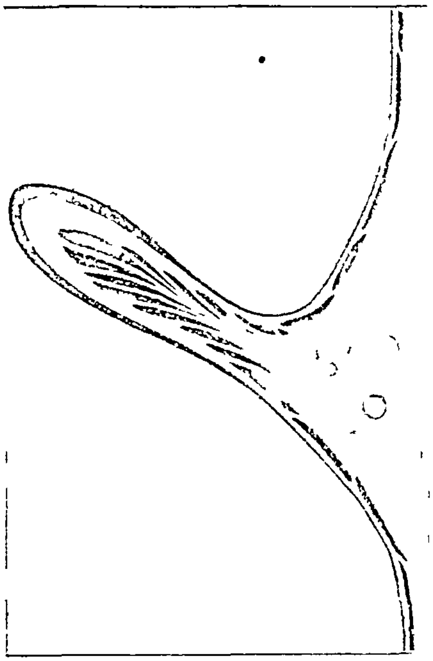


Fig 23 —A semilunar valve taken from the specimen shown in Fig 18 drawn as seen under a glass magnifying fifteen diameters A mucous membrane B fibrous tissue C bundle of circular muscular fibres D vein E, artery F, vein G artery H areolar and adipose tissue

The disproportionately great length of descending colon and mesentery of the infant obviously contributes to the possibility of angulation of the gut The angulations constitute a resistance to the descent of the feces

The third feature obstructive to defection in infants is the rectal valve It is a feature and factor which not only has not been recognized but is one whose very anatomic existence has been most ingeniously and persistently disputed In each and every instance of more than three hundred subjects examined by me these valves have been present though in varying number and position in different subjects In most cases there are present three valves in some there are four and in others there are but two The infant specimens shown indicate that the valves are particularly well developed at birth, spanning as they do one half the diameter of the gut

The microscopic section which was shown was taken from the middle of the lower valve of the adult specimen exhibited (See Fig 23) It was shown magnified fifteen diameters The thickened state of the mucous membrane over the free border of the valve fortifies that point against the increased friction which that part must necessarily bear Beneath it is noticeable the heavy layer of fibrous tissue which gradually diminishes till it is lost at the valve base Bundles of circular muscular fibers are seen in the middle of the valve At its base are seen arteries and veins for its special nutrition This structural arrangement makes this organ the typic anatomic valve—evidence of fibrous tissue in the organ is a distinct addition to our knowledge of this subject It must be readily seen that the presence in the rectum of such a structure as an anatomic valve would be essentially obstructive to the passage of feces

The bony pelvic outlet in the infant is so contracted that the limits of anal expansion are such as to almost defeat the passage through it of other than fluid feces The average transverse diameter of the newly born infant's pelvic outlet is but little more than one-half inch—1 27 cm —the pubo-coccygeal measurement is even less The average distensibility of the sigmoid flexure and rectal chambers, in which the feces when firm are formed, is four or five times that of the anal expansibility, thus it is readily perceived that, compared to the adult, the juxtaposition of the ischial tuberosities in the infant supplies a most obstinate obstructive factor in defecation

Aside from the difficulties of defecation which the undeveloped state of the anatomy of the organs of defecation entail upon the infant, there are two more or less grave accidents which are peculiarly common to infants, namely prolapse of the entire rectum and inguinal hernia Prolapse, involving all the coats of the rectum, or complete prolapse as it has been called, is due to the great length of the mesentery with which the rectum of the infant is provided, and to the undeveloped state of the other pelvic organs and contiguous structures, which in a state of more complete development in the adult, contribute support to the rectum

Inguinal hernia is more likely to be acquired by the infant than the adult, because of the relatively greater length of the mesentery in the infant and because of the relatively smaller pelvis and protuberant, pot-bellied abdomen of the infant, which latter feature places the abdominal ring in almost as dependent a position in the infant abdominal wall, as the anus itself is placed in the abdomen of the adult

These studies of the infant, when compared to similar studies of the adult, admit of the conclusion, I believe that the normally formed infant's escape from these difficulties is ultimately assured by process of development, but the tribulations, the accidents referred to, and the dangers which are recognized as common to the period preceding adolescence make it incumbent upon us that we direct efforts toward their alleviation Diet, hygroscopic suppositories and fluid injections which may render more fluid the intestinal contents will favor their descent through the convoluted gut, the valvulated rectum and the contracted anus Massage of the abdomen over the region of the colon aids in 1, the development of the auxiliary abdominal muscles of defecation, and the intrinsic expulsory muscles of the intestinal wall, further, such manipulations 2, directly propel the gut's contents along the tortuous course of the bowel, and 3, relatively reduce the obstructive features of the valve If there be an overgrowth of the rectal valve, and if it form an almost impassable barrier to the descent of the feces, it may be in some measure overcome by dilatation, which may be effected through the means of the gently-introduced trained finger In case the defective valve exists in the form of a diaphragmatic stricture or membranous septum with a central aperture, the valve may be safely cut by a method described by the writer elsewhere [1]

As at birth the pelvic bones are not yet united, and as the rami of the ischium and pubes are still quite cartilaginous, it is obviously possible that a little energy intelligently directed from without will spread the pelvic outlet, whereas the infant labors ineffectually with his forces applied, as they are, at a disadvantage from within The nurse, therefore, may be directed to pare away her nail-ends, lubricate her fingers and gently introduce the smallest finger through the anus Daily gradual dilatation of the infant's pelvic outlet should be practised, graduating from finger to finger until the required degree of dilatation be reached The introduction of the finger, independent of its dilating uses, incites the mechanism of defecation to action Rachitic subjects with abnormal contraction of the pelvic outlet demand forcible divulsion of the ischial tuberosities

That form of complete prolapse which is so common to infants, for the anatomic reasons already specified, is to be managed by the employment of the procedures already proposed, together with proper posture of the little subject at the time of defecation, and after the prolapsed bowel has been returned That posture which favors the production of prolapse is the one of flexion, which is naturally assumed for defecation Extension of the limbs is the position which best overcomes the tendency to prolapse, and therefore the subject should be required to take either the erect-extended or the horizontal extended posture at the time of straining at stool as a preventive measure The best position of the patient for the reduction of the prolapsed rectum is that known as the knee chest posture, and the best posture to prevent its immediate recurrence is that of horizontal extension As an auxiliary means of retention of the rectum the buttocks may be strapped together with an adhesive band

Acquired inguinal hernia in infants should not be operated on, if its control be possible by means of the truss, for the reason that the natural growth of the infant and consequent expansion of the pelvis converts the mesenteric to parietal peritoneum and shortens the range of movement of the intestine, and such growth also places the abdominal ring in a more protected situation, and removes it from the excessive pressure of the intestine—thus the child outgrows hernia These observations on hernia have no reference whatever to those forms of congenital hernia which depend upon errors of development of the inguinal canal or of its contents

---

[1] See paper by the writer presented in the Surgical Section

---

Injection for General Weakness —In severe gastro intestinal infections in infancy (F Fede), the following is recommended as an injection bihydrochlorate of quinin, asafetida, tincture of musk, āā 1 gram, boiled water 120 grams, yolk of one egg For two or three injections during the twenty four hours — *Semaine Méd* , September 28

WHAT ARE THE SYMPTOMS OF NEPHRITIS?

BY ROBERT T. EDES
JAMAICA PLAIN (BOSTON), MASS.

This question was asked in an editorial of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION of July 23, 1898, the writer in his comments seeming to intimate that the subject has been complicated rather than simplified by some of the more modern observations, and that it is surrounded by needless mystery.

It is true that the diagnosis is not quite so simple as in the days when "albuminuria" covered almost the whole ground of renal pathology, while prognosis was brief and gloomy, and the clinical history prolix only, because of the great variety and severity of the symptoms, which might precede the fatal termination. That, however, was longer ago than the "few years" claimed by the editor. Forty years ago it was known that albumin was to be found in the urine in many cases which were not to be considered Bright's disease, and the number of conditions in which it may occur has been constantly added to until at last a "physiologic albuminuria" has been spoken of.

The significance of the presence of casts has undergone similar changes in estimated importance and for similar reasons, until the writers in the JOURNAL (Haines and Skinner, Jan. 29, 1898) claim that by their method of careful search casts may be found in samples of urine even from persons in perfect health. When these facts are brought into connection with another set of (as I believe, exceptional) observations, in which it is shown that the progress of a well-recognized nephritis may be accompanied by neither of these important conditions—once considered almost, if not conclusively, pathognomonic—and when we find also that the person with the high arterial tension shown by the sphygmogram—which has been thought so highly characteristic that Mahomed used to speak of "Bright's disease without nephritis"—may live for years without developing any others, the bewildered student finds himself driven to the conclusion that the only persons who are free from the symptoms of Bright's disease are those who have the disease itself.

Now, whatever we may think, as a matter of taste or gratitude or scientific accuracy, of the propriety of naming diseases and symptom-groups after physicians, it seems clear that if we do so, the name should be applied to the conditions described by the writer, and not to something else more or less frequently associated with it, even if the subsequent author calls his the "true ——'s disease" and all others "spurious" or "pseudo-." Certainly Dr. Bright described well-recognized organic gross disease of the kidney, associated during life with the presence in the urine of albumin, detected by heat. He did not describe the hypertrophy of the heart as the disease, although he well knew that it was a frequent accompaniment, nor the high tension of the arteries, nor the casts which he had not seen, nor the traces of albumin which the reagents had not been invented to detect.

It seems that a portion of such obscurity and confusion as still surround the matter—which the editorial in question seems to have exaggerated—is due in part to confusion in nomenclature, in part to a tendency to overestimate the importance of rare exceptions, and to go from one extreme to the other, concluding that so soon as a symptom has been shown not to be pathognomonic it has no longer any value, and in part to another error which sometimes accompanies the development of greater accuracy in diagnosis and the recognition of earlier stages of diseases or perhaps even of a tendency thereto. I mean the mistake of attributing the clinical history and prognosis based upon the study of well developed and advanced examples to cases which have been recognized by more refined methods at an earlier stage—so early, in fact, that it may often be doubtful whether they have gone far beyond the bounds of normal activity or structure. Such recognition is of the highest value for prophylaxis and therapeutics, but should be utilized with the utmost caution in prognosis, both for the sake of the patient's peace of mind and the physician's reputation, and this caution is never more necessary than in connection with the very class of diseases under consideration.

The following chain of reasoning—although I admit that it can not be found laid down in the books in exactly this form—does not greatly misrepresent the usual state of feeling among the profession not so many years ago, and not yet wholly extinct among the laity. A single observation of albumin in the urine meant albuminuria, albuminuria meant disease of the kidneys, disease of the kidneys meant, in the great majority of cases, chronic Bright's disease, Bright's disease meant steady progress toward a not remote fatal termination, which might be interrupted at any time by various accidents which would still more accelerate it. Some of the links of this chain are weaker than others, but all of them have, of late years, been subjected to searching examination, and they may be taken up in order.

1. As to transient, physiologic or cyclic albuminuria. Albumin in small quantity has been found either constantly or at frequent short intervals in the urine of many persons supposedly healthy or more frequently among those quite young who are not actually sick but are a little below par in general condition. When the intervals are more or less regular, usually coinciding with the periods of sleeping and waking, or more properly of lying down and getting up, it is called cyclic. In some exceptional cases a condition of constant albuminuria may last over months or years without manifest impairment of the general health.

In the majority of cases transient albuminuria is provoked by exposure of some kind, frequently such as tends to raise the arterial tension and thus bring more pressure to bear on the kidneys. Cold bathing is the typic example. Other conditions, however, figure prominently among the statistics of those who have found large proportions of albuminurics among healthy persons. Such are, for instance, excessive exercise, and vaccination, and the expectation of examination. What the local conditions are which give rise to transitory albuminuria it is difficult to say, as such cases are not likely to be the subject of postmortem examination, but it is not going far to surmise that they involve some real, if slight and transient and easily reparable, change in the epithelium of the glomeruli. But a single observation showing albumin should not be considered of great diagnostic value, unless the quantity is large or there are other symptoms confirmatory of the suspicions attaching to its presence, or unless repeated examinations show that it is more than temporary.

An exceedingly important point in regard both to this question and the next one, is that of the tes-

TABLE I —ALBUMINURIA AMONG PERSONS SUPPOSEDLY HEALTHY

Author	References	Class of cases	Number examined	Albumin found	Per cent	Albumin in larger amounts or by ordinary tests	12-25 cgr per liter	Less than 12 trace	Remarks
Clarke	Brit Med Jour , Aug 16, 1887	Persons expecting examination	20	3	15				
Leube	Virchow's Arch vol 72	Healthy soldiers	119	19	16	Not more than 0 1 per cent			After exercise Before exercise, morning urine 4 per cent albuminous Cylinders and blood corpuscles not found
Fürbringer	Ztschr für klin Med 1879-80	Children	61	7	11 5				Tested by boiling
Munn	Medical Investigations in Life Insurance	Applicants for life insurance	630	59	10 6				
Kleugden	Arch fur Psych , 1880-81	Attendants in asylum	32	14	43 5	8		6	
Grainger Stewart	Brit Med Jour June 11, 1877	Soldiers	205		37 6				
Grainger Stewart	Brit Med Jour June 11 1877	Civilians	74		10 8				
Grainger Stewart	Brit Med Jour June 11 1877	Children	40		17 5				
Grainger Stewart	Brit Med Jour June 11 1877	Workhouse inmates aged about 60	40		67 5				
Van Noorden	Deutsch Arch klin Med 1885-86	Soldiers	52		8-10 5				Mucous threads
Capitan	Inaug These Paris 1883	Soldiers	98	44	45				
Capitan	Inaug These Paris 1883	Children	97	86	89				
De la Celle	Inaug These Paris, 1883	Infantry	120	92	77		22		De la Celle In 701 persons in health 17 give more than 35 cgr per liter 152 12 to 25 cgr per liter
De la Celle	Inaug These Paris 1883	Cuirassiers exercising	88	70	79 5	1	17		
De la Celle	Inaug These Paris, 1883	Soldiers returning from review	111	100	90	4			
De la Celle	Inaug These Paris 1883	Cuirassiers just vaccinated	31	31	100		10		
De la Celle	Inaug These, Paris 1883	Students	50	46	92		29		
De la Celle	Inaug These Paris, 1883	Children, 6 to 15	61	49	80		9		
De la Celle	Inaug These Paris 1883	Children 6 to 15	81	62	76 5		5		
De la Celle	Inaug These, Paris 1883	Infantry (cold bath)	53	53	100	10	17		
De la Celle	Inaug These Paris, 1883	Soldiers after food	91	74	79		9		
Leroux	Revue de Méd Paris 1883	Children	330	19	5				
Roberts	Urinary and Renal Diseases	Candidates for life insurance	31	29		0			No albumin by nitric acid or heat Acid brine (11) picric acid (14), tungstate (28) *mercuric iodid* (29) Author suspects mucin
Fox	Lancet, Dec 12 1891	Candidates for life insurance	282	86	30				
Tiemann	N Y Med Jour March 17 1894	Candidates for life insurance	2,000		9+				
Brannan[1]	N Y Med Jour July 4 1891	Candidates for life insurance	365	54	14 8				
Washburn	Med News April 5, 1890	Candidates for life insurance	338	20	5 91				
Shepard (chairman)	Proc Connecticut Med Soc , 1888 iv 203	Candidates for life insurance a few sold'rs and civili'ns	35,421	328	2—				Out of 20 persons with albumin 7 had casts
Finot	Comptes Rendu Soc de Biol Paris 1892 133	Young persons	17		82				*Examined at various times of the day* Only 3 were never albuminuric
Banié	N Y Med Rec 1897 Vol i p 111	In jail healthy							In 795 analyses, albumin 92 times
		Age 15 to 25	10	5	50				Casts, 5
		Age 25 to 35	10	5	50				Casts, 2
		Age 35 to 45	10	4	40				Casts 3
		Age 45 to 55	10	3	30				Casts 1
		Age 55 to 65	10	2	20				Casts, 2

---

[1] Brannan remarks upon the unusually large percentage found among candidates for life insurance, and quotes Rabagliati as accounting for this condition by saying that the well to do have more renal disease because they eat and drink too much This apparently does not apply to Shepard's figures

As more delicate reagents have been employed, the proportion of cases in which albumin—or what is claimed as such—has been found increases, until with "Tanret" (iodohydrargyrate of potassium) it is said to occur in the majority of cases of healthy persons, rising to 90 per cent in "soldiers returning from a review," and 100 among "cuirassiers just vaccinated" and "infantry after a cold bath" (De la Celle See table)

It is obvious that such a test as this is worse than useless, for it can give no useful information to the physician, while if results based upon it be communicated to the patient, it will implant in his mind an apprehension which no subsequent explanations can fully remove There is no clinical value in a test which draws no line, not even an obscure and uncertain one, between danger and safety The same remark will apply in less degree to some others, which shade in delicacy from the "Tanret" to the ordinary heat and nitric acid tests—not the "heat *with* nitric acid" test, which should never be used

Probably these last mark most clearly and conveniently the point at which the line can best be drawn between the presence of albuminuria and "no," i e , a negligible amount of, albumin, and the physician who adheres to these, carefully used, will make less trouble for himself and his patient than with any other He may, however, for convenience and to make sure, sometimes find the acid brine or picric acid useful, and it is within the bounds of possibility that his attention might be called by even more delicate ones, in some exceptional cases, to a renal trouble that might otherwise be overlooked Any errors of omission of this kind, however, would be as nothing beside those which he would make upon the other side if he adhered to any very excessively delicate test as a criterion of well developed renal disease If from 75 to 100 per cent of healthy persons are known to have albumin in the urine, there is no use in searching for it, for experience tells us that only a much smaller proportion than this are the probable subjects of future renal disease, and neither its presence nor its absence can tell us which are the ones

Some years ago I collected from various sources a number of tables showing the frequency of the occurrence of albumin, which are reproduced here with some subsequent additions Among the most noticeable are those of a committee of the Connecticut Medical Society, of which Dr Shepard of Hartford was chairman, which will be seen to differ very widely from many collected from nearly the same class of persons, which they might be supposed to approximate most nearly Dr Shepard says explicitly that he has taken no notice of cases where the albumin was not shown by the heat test This paper is to be found in the Proceedings of the Connecticut Medical

TABLE II—ALBUMINURIA OF ADOLESCENTS CYCLIC AND ACCIDENTAL ALBUMINURIA

Author	Reference	Class of cases	Number examined	Casts found	Remarks
Moxon	Guy's Hospital reports xxiii	Young man		Very few	Albumin of adolescence later renal calculus
Dukes[2]	British Med Jour, Nov 12 1881	Young men and boys			Some transient some recover after years large proportion first stage Bright's disease
Johnson	British Med Jour, Dec 6, 1873	Young men		None	After bathing
Vogel	Virchow's Handbuch vi			None	Cases observed by the year no symptoms may be slight organic changes
Pavy	Lancet Oct 17, 1885	Men mostly young		None	Cyclic and intermittent oxalate of lime no bad health
Pavy	British Med Jour, i 271, 1876	Weston (the pedestrian)		Abundance hyalin and granul	During walk in 1888 in active business
Ultzmann	Wiener med Presse Jan 23, 1870	Physicians	8	None	Urine clear, dark, acid 1025 to 10?? nothing else abnormal
Edlefsen	Mitth Ver Sch Holst Aertz, 1866 to 1881		3	Not mentioned a few times	Albumin after exertion supposes no renal diseases (excludes doubtful opalescence)
Furbinger	Zeitsch klin Med 1879-80	Officers, young physic'ns blooming young people		Small cylinders	Officers after exertion urine scanty saturated containing uric acid gravel
Marcacci	L'Imparziale, May 12, 1878	Young physician (self)		None	Albumin absent from night urine present in day increased by exercise
Rooke	British Med Jour, Oct 19, 1878	Young woman 14 to 16			Intermittent none in morning always at night disappeared by rest
Kinnicutt	Arch of Med 1882	Young persons		None	Transient, some associated with high specific gravity uric acid oxalate of lime, arterial tension low
Simmons	Sacramento Med Jour, April 1887	Young physician		None	Cyclic none in early morning concentrated, four years standing now absent oxalate of lime uric acid
Canfield	Philadelphia Med News 1887	Man, aged 32		None	Cyclic none in early morning maximum at 8 A M and in evening well
Klemperer	Deutsch Arch f klin Med, xii (as quoted by Canfield)	Student			Cyclic maxima nearly as above
Stokes	Lancet March 10 1888			None	Four years lithiasis from beer when lithiasis abates albumin also
Stokes	Lancet, March 10 1888	Athlete			Albumin twenty years now prostatic and cystic trouble
Ralfe	Lancet, ii, 1886	Man		None	Albumin six years urine pale abundant density high, much pigment
Fergusson	British Med Jour ii 1878	Youth of 17		Not mentioned	Albumin five years puffiness of eyelids
Rendall	Thèse de Paris, 1883			Very rarely	Albuminuria from digestion (hematogenous)
Engel	New York Med Rec, Oct 1882	Several young men		None in those which mention'd	Occasional albuminuria after unusually heavy meal
Engel	New York Med Rec, Oct 1882	Two young men		Present	Later symptoms of renal disease more marked
Merklen	Med Press and Circular p 7 1885	Young man 16 (symptoms acute)		None	Rather weakly albumin from noon to midnight more in night
Fischl	Deutsch Arch klin Med, xxix, 217	Patients mostly with gastric or hepatic colic jaundice	10	None	Albumin temporary
Fischl	Deut Arch klin Med, xxix, 217	Metrorrhagia collapse	4	Few	Albumin temporary
Bull	Nordiskt Archiv	Physician aged 27			Continued at least two years
Kinnier	N Y Med Rec June 19 1886	Young men	3	None	Albumin during middle of day
Coupland	Lancet, July 10 1886	Girl of 16		None	No albumin in morning later irregularly present no crystals of uric acid or oxalate
Fox	Lancet, *Dec* 12, 1891	*Man, aged 31*		On second examination	Albumin constant re-examined after two years casts found health apparently excellent
Fox	Lancet, Dec 12, 1891	Man, aged 60			Albumin occasionally for 17 years casts sometimes
Tiemann	New York Med Jour	Males under 21	186		Albumin in fifty one cases, 27.5 per cent
Brannan	New York Med Jour	Man			Albumin without renal disease, used to eat three raw eggs in morning eggs stopped albumin disappeared
Edes	See text	Young woman		A few mostly hyalin	Albumin first found thirty one years ago after puerperal convulsions, from time to time ever since a trace of albumin and casts

Society, N S, Vol iv, p 203, Hartford, 1888, concealed under the highly descriptive title, "Matters of Professional Interest" This covers many thousand cases

2 The more or less persistent presence of albumin is always of importance enough to call for a minute and careful search for other symptoms, but if these are not found in such a way as to decide the question there has been a good deal of difference of opinion as to how seriously this one standing alone should be taken This point is especially to be emphasized in reference to life insurance, that is as to the remoter prognosis

Most authorities who have had the opportunity to study the subject from that point of view are quite clear that albuminuria constitutes a decided objection to a risk, although their own statistics, as well as the general experience, proves that there are many albuminurics, by the ordinary tests—that is tests about as delicate as heat—who are in no immediate danger of chronic nephritis of sufficient intensity to give rise to any other symptoms for many years In the face of the facts that in the vast majority of cases and under normal circumstances no albumin what ever detectable by heat escapes by the urine and that when it does so, some slight departure from normality may usually be found, and that when persistent there is in nearly all cases a deterioration of the general health (Munn, Dukes Brannan), it is safe to say that albuminuria always means some trouble with the kidneys Whether in all cases it has a right to the dignity of nephritis, is largely a matter of nomenclature

We are originally furnished with perhaps twice as much renal tissue as is sufficient to take care of the excreta which normally pass in this direction There is no disturbance of the balance of health until the secreting power is reduced, either by loss of substance or loss of function, or unless on some special occasion the demands upon it are considerably increased Thus it is perfectly possible that there may be some portion of the structure sufficiently damaged to let through a small portion of albumin without affecting the rest of the kidney, just as there may be, for instance, a few specially irritable regions in the nasal passages or in the colon which secrete more than their normal amount of mucus without impairing the functions of the remainder

The observations of Munn (Medical Investigation in Life Insurance) showed *that among the albuminuric* candidates for life insurance the percentage of mortality was considerably above the normal and that they all exhibited, after a lapse of time a falling off in complexion and general appearance Clement Dukes (*Brit Med Jour*, Nov 12, 1881 and *Lancet* Dec 12, 1891), who has for years given attention to the albuminuria of adolescence is far from regarding it with indifference and [illegible] occas

---

[2] In a later article (Lancet 1891 Vol ii pp 1327-1382) Dukes remarks that these cases are much influenced by posture Albuminuria occurs after standing Also, these persons liable to faint on standing

TABLE III —ALBUMINURIA AMONG THE SICK

Author	Reference	Class of cases	Number examined	Albumin found	Per cent	Remarks
Saundby	Brit Med Jour, May 10, 1879	Out patients	145	105		
Stewart	Brit Med Jour Oct 15, 1887	Private patients	150	36		
Stewart	Brit Med Jour Oct 15, 1887	Indoor infirmary	150	74		
Stewart	Brit Med Jour, Oct 15 1887	Outdoor infirmary	100	19		
Stewart	Brit Med Jour, Oct 15 1887	Sick children	50	7		
Stewart	Brit Med Jour Oct 15, 1887	Fever hospital	50	33		
Stewart	Brit Med Jour Oct 15, 1887	Maternity	25	18		
Kleugden	Arch f Psych, 1880-81	Male epileptics	33	13		
Kleugden	Arch f Psych 1880-81	Insane	60	11		
Capitan	Inaug Thèse	Various diseases, mostly acute	?	Large number		
Van Noorden	Deutsch Arch f klin Med	Surgical and ophthalmic cases	112		31 3	
Brannan	N Y Med Jour, July 4, 1891	100 consecutive male patients	100		5	
Stone	Boston Medical and Surg Jour, Sept 22, 1898	Female out patients aged as follows 15 to 20	98	31	31 6	
		20 to 30	418	96	22 8	
		30 to 40	298	66	22 1	
		40 to 50	238	54	22 7	
		50 to 60	141	37	26 2	
		60 to 70	49	13	26 2	
		70+	6	1	16 6	
Stewart	Am Jour Med Sci, Dec 1893	Nephritis (?)		0		Casts found
Stewart	Med News, April 14, 1894	Nephritis (?)		0		Casts found
Edwards[3]	Am Jour Med Sci, Oct, 1898	Nephritis (?)		0		No casts no decrease nor increase of urinary solids

[3] Refers to many authors who speak of the absence of albumin

TABLE IV —OPINIONS

Author	Reference	Remarks
Gull	Guy's Hospital Reports xxii (reported by Moxon)	Albuminuria as common as spermatorrhea
Johnson	Brit Med Jour, Dec 13, 1879	Latent albuminuria means serious trouble
Teissier	Lyon Méd, 1887	Subjects of cyclic albuminuria probably all destined to goutiness
De Havilland Hall	Lancet, Feb 18 1888	Albuminurics should not be assured
Pye Smith	Guy's Hospital Reports Vol xix	No person who has albuminous urine (by usual tests) can be considered eligible for life insurance
Brannan	New York Medical Journal, July 4 1891	Derangement of function will sooner or later end in structural change in kidney

TARLE V

	Accidental	Neurotic	Irritative	Asystolic	Chronic parenchymatous nephritis	Chronic interstitial nephritis	Subacute nephritis	Cerebral disease
Daily quantity of urine	Normal	Increased	Diminished	Diminished	Diminished	Increased	Diminished	Increased
Specific gravity	Normal	Diminished	Increased	Increased	Normal or increased	Diminished	Increased or little change	Diminished
Albumin	Varies in different cases, only occasionally present perhaps	Small amount	Small amount	Varies	Much	Mod'rate, none sometimes	Moderate	Small amount
Casts	None or a very few hyaline	None or a very hyaline	Few	Few or many hyaline and granular	Many of all kinds	Hyaline epithel, granul'r	Hyaline epithelial gran	Very few
Other sediment	Not important	Not import'nt	Uric acid oxal of lime ep stained with bile pigment blood?	Urates	Urates epithelium	Uric acid? or not important	Epithelium urinary salts	Not import'nt
Arterial tension	Normal	High	Normal or high	Diminished	Diminished	Increased	Not much changed	High
Dropsy	None	None	None	Lower limbs	General	Face, feet and shins	Slight	None or very slight
Eye ground	Normal	Normal	Normal	Normal or hemorrhages	Album retinitis, but less comm'n than in next	Albuminuric retinitis hemorrhages	Sometimes lesions which disappear	Optic neuritis

recognized in a college student, applying to him for more advanced renal disease, one of his former albuminuric boys He says "The cases of early albuminuria, so common in the young, constitute the early stage of what may eventually become developed into that chronic disorganization of the kidneys termed Bright's disease"

One of the most striking illustrations of the fact, that while albuminuria may be an exceedingly chronic symptom, it is not to be considered as without significance may be found in the history given by Dickenson of an old family in which this symptom has been known to exist for at least four generations, while the family portraits seemed to him to give strong grounds for the suspicion that it extended back to a time when it was not sought for in the urine, but revealed itself by the complexion and general appearance to the experienced eye of later physicians Most of the persons affected died at a comparatively early age, and in one case the kidney examined and reported in connection with Dickenson's paper was clearly in a condition of chronic nephritis (Trans Path Soc London, 1888-89, xi, 144)

3 The distinction between acute nephritis and the forms of chronic renal degeneration more distinctively known as Bright's disease without any prefix, is too obvious not to have been at once recognized The relationship between them was also well understood, so that although it was known that the acute might give rise to the chronic form it was by no means necessarily so, any more than it was usual for pneumonia, for instance, to cause consumption, although such a thing might, under specially unfavorable circumstances, occur But there seem to be cases between the two where the duration is distinctly too long and the intensity of the symptoms too slight to be considered acute, and on the other hand, do not deserve the inevitably fatal prognosis supposed to be connected with the diagnosis of Bright's When a case of this kind recovers—either absolutely or relatively—it may be claimed on the one hand by the therapeutic optimist as a "cure of Bright's disease,"

or may be, on the other, belittled by the skeptic as only "an acute case which was rather slow in getting well"?

4 The knowledge of the extreme chronicity, as well as the insidious origin, of well-marked Bright's disease could only be acquired by the lapse of time, and many instances of so called mistakes are due to this fact rather than to any error in diagnosis, properly speaking A very interesting case is reported by Francis Hawkins (Trans Clinical Society of London, 1892 3, xxvi, 216), of a medical man who had consulted Dr Bright himself, and had been told by him that he had renal disease, and that death was inevitable within two or three years He gave up his London practice, but died forty-three years later of cerebral hemorrhage Stories of this character are apt to be told of many distinguished physicians, who see in their consulting practice a large proportion of cases that are difficult and obscure They naturally contribute greatly to the comfort and hilarity of the laity In the present one Dr Bright may have been perfectly correct in his diagnosis and failed so signally in his prognosis, because he was necessarily unaware of possibilities now familiar to all The time that has elapsed since the practice of searching for urinary symptoms in cases—other than those where it is absolutely forced upon us—has become a common one, has taught us many things that he could not have known Such cases show what we are finding out more and more in regard to many diseases, that an experience based on the hospital and deadhouse, which represent almost entirely the last stages of chronic diseases, is not trustworthy as the sole guide in general practice

A young woman had post-puerperal convulsions in September, 1867 Soon after and for a year later albumin was found in the urine She was confined again in 1870 and in 1871, the children being sickly Subsequent examinations of which I have notes are as follows, and I have a strong impression that there were others of the same character

November, 1874 Albumin and casts, medium sized, granular and one or two small hyaline April, 1878 Considerable albumin, small hyaline casts September, 1887 Large trace of albumin, one cast September, 1898 S G, 1016, perceptible opalescence on boiling, slight cloudiness with picric acid, no perceptible line on underlying with nitric acid, several small hyaline casts In 1887 she called to see me, and again in 1898, and is in fair health

It certainly appears more probable in a case of this kind that some small local lesion has remained the same without extension to surrounding tissues, than that any general deterioration either of blood, of arteries, or of renal structures has withstood the shocks of subsequent pregnancies and the wear of thirty years without impairment of the general health

On the other side of the albumin question, i e, with reference to those cases of decided nephritis which have been for many years known to exist, where *albumin* is *temporarily* or even for long periods absent from the urine, they only emphasize the importance of inquiring in regard to *all* the symptoms in *every* case Equal or superior in importance to albuminuria, comes the presence of casts, and then the *quantity of* urine and its solid constituents, condition of the heart and arteries, edema, nausea and anemia

Several elaborate articles, based on a careful study, not only of the more obvious symptoms but of the chemic constituents of the urine for twenty-four hours, have recently appeared by Stewart (*Am Jour Med Sci*, December, 1893, *Med News*, April 14, 1894) and Edwards (*Amer Jour Med Sci*, October, 1898) The first named of these authors seeks to establish a special form of nephritis on the basis of absence of albuminuria It seems very much like the "renal inadequacy" of Sir Andrew Clarke In all of his (Stewart's) cases casts were found, but he seems to lay special stress in his diagnosis on the deficiency of both water and solid constituents in the twenty-four hours urine Of this it may be remarked that he has set his normal standard very high (35 gm of urea) and, what is of perhaps more importance, there is little reason to suppose that such soluble and highly diuretic substances as urea and chlorid of sodium fail to appear in the urine in sufficient quantity on account of any structural difficulty in passing them through

A comparison of cases of renal atrophy from hydronephrosis or renal calculus shows how small a remnant of secreting structure is sufficient to filter through large quantities of water, presumably carrying with it such salts as are very easily soluble therein This condition of things points much more strongly to a deficient metabolism, which is a pathologic condition, but has no necessary relation to the kidneys in particular, except from the fact that its products happen to come through those organs It may indicate to the shrewd observer one of the directions in which danger may be anticipated, but it is not nephritis

If, in such a case as is reported by Edwards nephritis is suspected when there are "no suggestive cardio vascular findings, no albumin, no casts, no decrease in total solids, specific gravity or quantity," no edema mentioned, and this possible diagnosis is confirmed by the autopsy, we can only congratulate the physicians on their acuteness and feel that when a diseased organ presents absolutely no symptoms of abnormality in its products, and no evidence—except so very indefinite a one as nausea—of impaired function, nobody but a clairvoyant can be blamed for overlooking it The "prealbuminuric stage of Bright's disease" of Mahomed and some others should be described rather as "a condition of the system, and in particular of the arteries, of which nephritis is one among several possible results"

The significance of a very small number of casts can not be quite so distinctly defined as that of a quantity of albumin determined by some standard test, because so much depends upon the skill, the luck, and especially the patience of the observer If the painstaking method of Haines and Skinner (*l c*) is followed, we can be reasonably sure that no casts have escaped us It is possible that after this method has been in use for some time we may find that they are as common as excessively small quantities of albumin, in which case the symptom must cease to have any great value, unless the chief weight is laid upon their character rather than upon their mere presence If however, we adopt a less rigid and more convenient standard, that is, the examination with a low power of several drops of sediment from urine that has stood for a number of hours without decomposing or obtained from the centrifugation of a considerable quantity, we stand on about the same level of accuracy with the heat test for albumin Most statistics are not very trustworthy as to determining the importance of the finding of casts under these conditions as there is no guarantee for even the degree of thoroughness just described, but there is no doubt that casts are often found in small numbers when they do not greatly add to the gravity of the evidence afforded by small quantities of albumin. So that now opinion is changing in regard to them, somewhat as it has already done in regard to albumin, and there is danger of their significance being overlooked or underestimated.

Two important limitations should be made. The casts, or so-called casts, of irregular outline and longitudinal striation, often tapering off into a tail at one end, and named, probably correctly, 'mucous," are of no consequence whatever, or, at the most, if numerous, are significant only of a certain amount of superficial irritation of the kidneys. They may, however, occasionally deceive an inexperienced observer. True casts may be divided into two chief classes: the small and medium hyaline, which are probably formed in the caliber of tubes which retain their epithelium, and the larger sized ones which contain, or are chiefly composed of, epithelium more or less degenerated, and also more homogeneous ones which are apparently formed in tubes from which the epithelium has been shed. The second class can often be found at the autopsy *in situ* in kidney undergoing various forms of degeneration. They signify parenchymatous nephritis and by their number and character, give important information as to the extent and progress of the lesion. They are naturally of much more serious import than the small hyaline ones carrying now and then a cell. The large casts formed by solid masses of degenerated cells molded in a tube previously denuded of its epithelium or of which the lining forms the outer layer of the cast itself, and those solid ones with a sharp outline, frequently bearing the marks of a more or less complete resinous fracture, are of the most unfavorable significance, but are not often met with until the question of diagnosis has long ceased to be the most interesting one.

Shattuck (*Boston Med. and Surg. Journ.*, 1894, cxxx, 613) has had many examinations made for the purpose of determining the frequency of casts, especially in persons of advancing years, and finds them more common as the patients are older, and not to be closely connected with other symptoms of renal disease, nor of special unfavorable import in such persons. This observation, however, is far from proving them of no significance, but shows simply the fact that there is always a reserve of renal structure and that if its destruction goes on slowly it may be years before that reserve is exhausted. The renal atrophy may be merely keeping pace with a diminishing call for activity of function dependent upon a less active metamorphosis of tissue. It corresponds to the postmortem observation of a narrow zone of atrophy just underneath the capsule, dependent upon a chronic interstitial nephritis, which has not destroyed any large proportion of secreting structure.

Mitchell (*New York Medical Times*, xxiii, No. 7, p. 201, July, 1895) has examined his records of persons whose condition was known for seven years after albumin and casts have been found. He concludes: "Where casts are found, together with albumin"—he used heat test—"the mortality is nearly three times as great (30 per cent.) as in the non albuminous cases (11 per cent.), and more than twice as great as in those who have albumin without casts (14 per cent.)."

A part of the difference between the non-albuminuric and the simply albuminuric cases was thought by Mitchell to be attributable to "accidental albuminuria," but in the presence of a microscopic examination that can hardly be of much importance.

It is only in the early stages and in regard to the preliminary questions that the albumin and casts are to be consided separately. In the permanent presence of albumin it is not safe, so far as most observations go, to assume the absence of casts because they are not mentioned, and on the other hand it is certainly not usual to find casts without the presence of a trace of albumin.

It is safe to say that the presence of albumin by the ordinary tests is proof of some disorder in the glomeruli, either as to blood pressure or soundness of epithelium or both, and that casts, according to their structure, either exudative or degenerative, prove disorder of the epithelium lining of the tubes, whether merely irritative or amounting to total disorganization. How extensive or how slowly progressive these changes may be is another step in the diagnosis, but they are never strictly physiologic, except in the sense that normal and natural reactions to abnormal conditions may be called so.

A condition which very frequently accompanies one form of nephritis—so frequently, indeed, that it has placed its stamp thereon and almost withdrawn it from the category of simple local inflammations, making of it a constitutional disease—is the high arterial tension. So early is it that Mahomed used to speak, not only of a "prealbuminuric stage of Bright's disease," but of "Bright's disease without nephritis." But this also fails of pathognomonic significance in the absence of the two symptoms just under discussion.

The sphygmograms of many cases of neurasthenia closely resemble those considered as characteristic of intestinal nephritis, that is, of an arterial pressure continuing high through too long a part of the diastolic interval, and indicating too great resistance to the passage of the blood in the distal portion of the circulation. The absolute pressure in the neurasthenic cases is probably less in the average than in the true arteriosclerotics, but the opposition to the escape of the blood through the arterioles is such in proportion to the force with which it is thrown into them, that a tracing is produced, similar in form, though often lacking in amplitude. This condition, as I have observed in many cases, is in no way a precursor of chronic nephritis (*Boston Med. and Surg. Journal*, May 19, 1881 and July 18, 1895.)

Many years ago I took some tracings from members of a medical club, among which were two which would, I think, by any one who had given attention to the subject, have been considered highly characteristic of chronic interstitial nephritis. One of these confreres died three years afterward, not of interstitial nephritis, but of interstitial hepatitis. The other, after practicing for many years longer, gave up finally on account of sciatica and the infirmities of age, and died at 85, never having given any signs of nephritis.

On the other hand, although the usual conception of the nephritis and the high arterial tension as two, perhaps equally important, parts of a common morbid condition, is applicable to the great majority of cases, yet it is probable that in some the arterial and cardiac lesions are distinctly the result of a nephritis of purely local origin.

I recall the case of a boy with atrophy of the kidneys, evidently dependent upon obstruction in the urinary passages, as shown by dilatation of the ureters and trabeculation of the bladder, who had a heart pronounced by competent authority to be hypertrophied, a condition for which there was nothing to account except increased arterial tension, which had not, however, been observed during life There had been peculiarities of micturition, although after death there was no obstruction to the passage of an instrument through the ureters or urethra in either direction

It is my belief that the origin of many cases of interstitial nephritis in young persons, where no other sufficient cause is to be found, might be successfully sought for in some difficulty of micturition, often functional, dependent upon irregular and incoordinated muscular and nervous action (See *Bechterew Neurologisches Centralblatt* Sept 15, 1898) This may have been so slight as to escape serious notice but yet sufficient to set up a back pressure in the ureters and kidneys which would lead to hydronephrosis and atrophy (*Medical News*, Aug 10, 1899)

The fact, now well known, that a man who has albumin in his urine is not thereby doomed to an early death, and the later statistics of Shattuck and Mitchell confirmed by many isolated observations, showing a similar significance as attached to casts, are likely to lead to false conclusions if they are taken to prove that these positive and distinct conditions are without important meaning A marked change in either direction in the daily quantity of urine, as determined by actual measurement, is of great value as a symptom, but an excess or especially a diminution in comparison with the average usually stated as normal, should not be too hastily referred to renal derangement In fact, in the early and doubtful stages, to which this paper chiefly refers, the kidneys are fully able to take care of all the water, urea, and probably all the other soluble salts, brought to them in the blood

Pollakiuria or frequency of micturition, especially at night, although it should call for a careful examination of the urine, may be entirely unconnected with any disease of the kidneys or even of the bladder, being often of purely neurotic origin

The amount of urine is influenced by many circumstances beside the condition of the kidneys the vascular tension, which, as we have seen, is not necessarily connected with nephritis, the activity of the skin and bowels, probably the dryness of the surrounding atmosphere, and in particular the habits of the patient as regards the quantity and diuretic quality of liquids taken A considerable diminution in the daily amount of urea excreted does not signify that the kidneys are inadequate to cope with it, but that for some other reason the metamorphosis of nitrogenous tissue is diminished A copious flow of pale urine of a specific gravity below the normal average will for months or years carry off all the urea formed

How far this applies to other substances less abundant, less diuretic, and less well known perhaps to some others formed only under pathologic conditions, is not so certain The presence of autogenetic poisons as the cause of many symptoms in renal disease is one of the interesting questions yet to be answered by the physiologic chemist and clinician together There are grounds for suspecting the uric acid group and some coloring matters, but the proof against them is not conclusive The ordinary urates are not so bad as they look

PRECORDIAL AREA IN CHILDREN

Presented to the Section on Diseases of Children at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY H B WHITNEY, M D

DENVER COLO

At the Pan American Congress in 1893, I presented a paper on "The Normal Precordia in Infancy and Childhood," and this paper was afterward published in the *Archives of Pediatrics* Subsequent observation has not changed the views expressed at that time, nor have I anything to add to them I shall, therefore, merely give you the briefest possible résumé of the original paper, my present purpose being to mark out the precordia in a few children of different ages, and invite criticism of the results obtained

I have ventured to bring up this subject again because, in the first place, I regard the question of the normal precordial area as of the greatest practical interest and importance, and if my observations have been correct, it seems to me desirable that the facts should be universally accepted In the percussion of the heart we are dealing with a measurably constant and unvarying quantity, our results ought to be proportionately reliable I am aware of the great differences of opinion which have always prevailed in regard to the precordial area, and these have been so divergent as to produce in some the conviction that anything like unanimity of opinion is hopeless, that differences of method and skill will always make percussion of the heart a purely individual matter I can not take this pessimistic view To me there is nothing in physical diagnosis more definite and more certainly ascertainable than the normal area of precordial dulness I am, therefore, hopeful that a practical comparison and discussion of methods may at least further an agreement among those who are here present

Hitherto no text-book in pediatrics has done more than state in a general way that the precordia of infancy and childhood is enlarged Weil emphasized the fact in 1879, but made no distinction as to age Other writers since Weil have simply repeated his statements I will give, in illustration, only a short paragraph from that latest and most admirable book on pediatrics, "Holt's Diseases of Infancy and Childhood " "The outline of the area of relative cardiac dulness, *especially in small children* [italics mine], is proportionately larger than in adults According to Sahli, the limits are as follows," and then limits are given, corresponding precisely to those originally found by Weil, and to those which I shall attempt to demonstrate at certain ages This persistent reappearance in the text books of the old and, according to my conviction incorrect statements, is the second reason why I again call your attention to my former paper

The gist of my own observations may in a word be stated as follows 1 Up to the age of 8 years the precordial area is not perceptibly enlarged but *corresponds* practically with that of the adult This statement concerns mainly its right border which in the adult is a perpendicular line corresponding very nearly with the *left* border of the sternum 2 From the age of 8 years up to and considerably beyond the age of puberty, the normal precordia differs markedly from that which is found in earlier life Its right border now extends a half inch or even more beyond the *right* sternal margin while the upper border is in the second interspace, and toward the *left* the precordia extends one fourth to one half of an inch beyond the mammillary line 3 During the fifth, sixth and seventh years conditions are inconstant The enlarged precordia of childhood may be found even in the fifth year, but is decidedly the exception In the sixth year it is much more frequent, in the seventh it occurs in the majority of cases, while in the eighth year, as before stated, it becomes a consant and, in my experience, unvarying find

As to method of percussion It is presumed that the stroke is light, or at most moderate in force My results have been always obtained with the fingers alone, I have never used a pleximeter In percussion of the right heart, I have always laid special emphasis upon the note obtained over the upper and lower halves of the sternum as compared with each other If the sternum is everywhere equally resonant, I fail to see how any enlargement of the heart toward the right can be affirmed, except in cases where there is some abnormal condition of the upper mediastinum If, on the other hand, the lower half of the sternum is duller than the upper half, such dulness can be attributed only to the precordia, a view which may always be confirmed by more careful delineation of this dull area toward the right

With these brief preliminary remarks, I beg leave to show you several presumably healthy children of different ages, in whom I have marked out the precordial area

DISCUSSION

Dr J N HALL, Denver—The doctor has asked us to point out any errors which we *see in his method of percussion* I n glad that I have little to say in the way of picking to pieces s results I think, however, the matter demonstrates several ings outside of percussing the chest It shows us there is om for us to learn something about even a matter thought to e so well *understood* as percussion I do feel, however the octor makes one point rather too strong, that is, that the question of cardiac area can be established, That is a matter perhaps, upon which the greatest variation exists among physicians, and concerning which our opinions must vary as long as *our methods and ears vary By the man who does his percussion* with the whole arm, using the hand as a hammer, such an area will not be marked out But now many more are using the finger in percussing than formerly Three times in my experience I have seen chests absolutely full of fluid In one case a diagnosis of advanced phthisis with impending death was made some years ago, and the man is now working on the railroad In those cases the physician did not percuss properly We may judge of what is beneath by the feeling of the finger as well as by the sound Illustrating this matter further, I will say that some two or three years ago a physician applied to me to ask whether I considered his cardiac area enlarged I told him I thought it was somewhat enlarged Another physician examined him and said he believed it was normal Six gentlemen, some of them of prominence, examined his heart, three said that it was normal and three that it was slightly enlarged As long as our opinions will vary in that way we can scarcely say that the matter of percussion is one of absolute accuracy As long as we have the lung causing different shades of sounds, we will certainly have some room for discussion as to the absolute area of dulness in any heart

Dr JOHN H MUSSER, Philadelphia—There is no department of physical diagnosis that is more difficult than that which attempts to determine the size of the heart by percussion It s one that I have been working at constantly for a long time and I am not yet satisfied as to my ability to positively state he size of the heart In fact, I do not believe any one can state the size of the heart We can state the relative and *absolute areas of dulness However, to me, the matter has* been of such extreme difficulty that I am always glad to learn from others their methods If I understood Dr Whitney right, in early life the right border of the cardiac dulness extends to the left edge of the sternum

Dr WHITNEY—Approximately

Dr MUSSER—Then it extends to the right border later on?

Dr WHITNEY—It increases with the age of the child

Dr MUSSER—*I am satisfied that in children the area of cardiac* dulness is farther out than we have been taught in the text books Even half an inch beyond the right edge of the sternum may be considered normal The varying size of the heart and the changes in respiration are the factors which make *it so difficult to indicate by percussion the size I refer* to the varying size of the heart with systole and diastole Hence one must percuss constantly and under various circumstances, and not with one method but with various methods, if possible, as control investigations, and even then one can not but fail often to satisfy himself as to the size of the heart I have felt this difficulty so much with the ordinary methods of percussion, in which I rely more upon the pitch than anything else, that I employ also the method of tapping the chest with the finger and rely upon the vibrations I also use auscultation But I have found good results from palpatory percussion I compare that which I get from the various methods with the child in the upright as well as in the recumbent position and also in full inspiration and full expiration Then I feel that I can come to some conclusion as to the size of the heart But the very fact that we have to go through so many measures, and the very fact that the heart is so variable from its action and respiratory movements, leads us to believe that our present methods are unsatisfactory I am quite sure that palpatory percussion is familiar to you all, yet, probably it will not be amiss to say that it is simply using the finger, with which you can feel resistance In fact, in this case, I would say the line, if anything, is a little above where Dr Whitney has indicated We percuss down the mammary line until we get to the liver dulness, and then by percussing we find a line about the fifth rib that turns off to the sixth rib and marks the cardiac dulness All these various methods of examination should be used, and even then you will come back in half an hour and find that you are an eighth or a quarter of an inch out I am very glad to have heard *Dr Whitney's method It is* the only way we can expect to get anything—by hammering away I am satisfied the question will be settled with precision before very long

Dr BABCOCK—I do not feel at all qualified to make comment, but would desire only to raise two or three points or queries which have suggested themselves to me 1 Can the latitude at which the Doctor makes his observation exert any influence upon this matter? 2 Can the history of the child make a difference? We know that pericaditis in children is a much more frequent disease than is recognized, and pericardial adhesions may exist which are never recognized The question has suggested itself to me whether in any of these children, for instance, there can be a history of some previous disease in the course of which a pericarditis leading to subsequent adhesions might have been present and yet not recognized We know that when an adherent pericardium exists it may not give rise to any signs, and yet it does materially influence our findings as to the size of the right heart 3 The query arises as to whether it makes any difference, in the percussion of a child's heart, whether it is done soon after a meal or when the stomach is empty The heart is a very movable organ and I would like merely to inquire if it is possible that the stomach of a child soon after a meal might, by a pressing upward of the diaphragm, raise the apex of the heart sufficiently to cause the heart to assume more of a horizontal position, and whether this might not deceive one in his observation on the precordial dulness of the child? In the cases presented here this morning, those from 8 years upward certainly presented a very different note along the sternum, and the Doctor certainly has demonstrated his claim Whether in the younger ones there is a slight though sufficient difference to determine that the precordial area is larger than the Doctor supposed is a matter perhaps of individual difference

Dr **A C Cotton**, Chicago—It seems to me that perhaps the most instructive part of the clinic today is the point that I would like to make in regard to auscultation, namely the importance of the personal equation in all of these cases Here we have acknowledged experts, yet I venture to say that if each one were asked to make a diagram of the area of cardiac dulness, we might have as great a variety of diagrams as we have of examiners Dr Whitney, himself, in demonstrating the area of dulness, observed that the blue line in one case did not correspond with the area of dulness Dr Musser tells us that he sometimes finds the area of dulness has moved a fraction of an inch in a comparatively short time Every one who has attempted percussion knows that much depends on the pressure of the finger Condensation of tissue under pressure will easily give a note that is readily demonstrable A very nice experiment is to have each one in a clinic examine the area of dulness, and cut a pattern, and then compare the patterns It is very astonishing the different patterns you will get, and not only from novices either That there is much difference in this respect I think everybody will admit When Professor Babcock tells us that he finds an enlarged area of dulness, I take it that means to him, and that there might not be an enlargement of the area of dulness to Dr Whitney or somebody else So it seems to me this personal equation will always stand between the different examiners

Dr **Rosa Engleman**, Chicago—Perhaps it would be better if more of our observers gave us observations as to physiologic and anatomic peculiarities in children as compared with the adult That is a study in which too little is done It occurred to me also that the individual factor as related to the children might play a part in this matter of percussion, or, as Dr Babcock has also intimated, perhaps disease I noticed in one case the chest showed the child was decidedly rachitic, and that might interfere with the normal growth and development of the heart Enlargement in the area might be due to the development at this age, especially between 7 years and puberty The difference, is not so appreciable between the ages of 1 and 7 years as between perhaps 7 and 12 or 13 I think these are factors that have to be taken into account in this anatomic and physiologic study of the heart of children

Dr **Herbert B Whitney**, Denver—In regard to Dr Fischer's question, my idea was to bring up the question of percussion, which alone is used in determining the size of the heart It is a question, when there is an increased area, whether we could judge that the heart was enlarged The precordial area obtained by percussion has very little to do with the size of the heart I thank Dr Babcock very much for his suggestion in regard to the distention of the stomach I think that may have much to do with the fact that I found over the lower part of the sternum at the fifth year a note, which is, it seems to me, as good if not better than over the upper part The remark about rachitic cases, by Dr Engleman, is a good one I have rejected some rachitic cases because the dulness always extends beyond the sternum In closing, I want to say one word in regard to the question of resonance in the fifth interspace in cases of pericardial infusion I have been associated with Dr Rotch in this work, filling the heart with water and percussing it I have found that I can not feel that the Doctor is correct in that I have examined a great many cases of pericardial effusion and enlargement of the heart, and I have come to the conclusion that, as far as my experience goes in those enormous hearts that extend far over to the right in which there is some difficulty in distinguishing it from a pericardial effusion, we find dulness everywhere sometimes absolute flatness extending over to the right of the sternum How one can make a differentiation between pericardial effusion and enlargement of the heart in that way is beyond me I have not been able to do so

A STUDY OF THE HEART AND CIRCULATION IN FEEBLE MINDED CHILDREN

[PRELIMINARY REPORT]

Presented to the Section on Diseases of Children at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY J MADISON TAYLOR, M D
AND
F SAVARY PEARCE, M D
PHILADELPHIA

In the Transactions of the American Academy of Medicine (Vol ii pp 164 to 189) for 1895 the writers considered the "Causes of Mental Impairment in Children,' and the "Causes of Imbecility and Idiocy the "Varieties of Idiocy,' and " Pathology of Idiocy, respectively

Since that time a study more particularly of further somatic changes in the mentally feeble children has been continued, and we have carefully gone over the records of the 532 cases reported in the above communication, with the object in view of tabulating systematically the results obtained as to the "Heart and Circulation in Feeble-Minded Children In feeble minded children a large proportion are of defective development in other organs

A large amount of new material accumulating through our own further studies, and in reports kindly made by physicians in charge of institutions for feeble-minded children, both public and private, have added much to the statistical value of our records, which will be recorded *in toto* and presented in the near future

It is here intended to make an elementary report to preface the elaboration which will be followed by a fuller compilation

Heart in feeble-minded children—Arhythmia is a notable feature in about half the cases, and especially so in proportion to the aberrant forms, as the Mongolian type of idiot Intermittent heart we noted but seldom and indeed in our experience it is more associated with functional disturbances than with organic (brain) changes, as though inhibition overflow mechanism was always at work in varying degrees in the mentally feeble Thus some sort of pulmogastric stimulus always persists whereas in functional brain or heart disturbances nature seems to be able to afford complete silencing of the myocardium again to proceed undisturbed This also seems to be the case with the ill innervated papillary muscles, for transient, shifting precordial murmurs not transmitted can, we think not be explained on any other physical basis, and true organic murmurs are not common Cases illustrating this phenomena will be detailed in the future work

Tachycardia occurs in 50 per cent of imbeciles, depending much on the degree of brain capacity and type of case—more marked in idiot savants and in microcephalic idiots

Brachycardia is not an unusual phenomena and occurs more in hydrocephalic, slight cerebral pressure cases, and in the sporadic cretin in which latter the use of thyroid has increased the pulse rate perma

Dr. Robert [illegible] Library

nently, along with the bettered mental and physical condition of the child

Increased area of precordial pulsation exists in about one-third of the cases of imbecility, in one half of which the hypertrophy is not sufficient to account for, and, we take it, must be due to transmission of unharmonious muscle-action, as implied in the above paragraph

Transient thrills occur in many cases and more at the apex, perhaps—but this is to be further studied—due to close proximity of the apex at the sixth rib to the chest wall

Transposition of the heart we have not met with, nor of other organs, although considerable shifting without added acute disease Reason for the same was noted in a marked number and reminded us much of an adult case of a contortionist athlete with sequent bovine heart, in which the subject was able to shift the apex back and forth by extrinsic muscle effort At autopsy we found a large, fatty heart and pericardial adhesions that might be causative in the shifting by the mechanism above detailed This case was seen by one of us as interne in the Presbyterian Hospital of Philadelphia, and has been reported by Dr R G Curtin, in whose clinic it occurred

Bruits in the neck are few and inconstant The hybrid between functional and organic murmur, as noted above by irregular valve leaflet action, was the principal lesion noted among the patients so far studied

Pulse seems to follow less closely the result of the cardiac action, as above detailed, less frequently than is known to exist in persons of normal mentality, ruling out any gross cardio-vascular malady It is not uncommon to detect rapid heart with synchronous pulse—but only temporarily—and the next fifteen minutes perhaps both fast or both slow, or indeed, vice versa

There is also apt to be much difference between the two radial or two dorsalis pedis pulses—all in fact out of true co ordination, as may be suspected on thought by the disturbed, ill-made governor—the brain mass of stunted, deficient micro-chemically weakened central neurons

Conditions of edema are singularly rare, notwithstanding the disturbed and apparently markedly separately acting vasomotor systems, conditions (and of the blood) which demand wider study, as do skeletal conditions in imbeciles

---

DISCUSSION ON GASTRIC DISEASES

Delivered in the Section on Diseases of Children, at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

Dr **Charles V Spivak**, Denver—It seems to me there is a certain hastiness on the part of the physician, when he comes to a child and finds it suffering from any gastric disturbance, to at once feel himself obliged to feed the baby and to devise some means how the baby should be fed When a child is vomiting ten or fifteen times a day, the milk or any other food it is given, I think it is absurd for the physician to prescribe any food at all I refer now to an extreme case of frequent vomiting or diarrhea, in order to take this simply as my point of departure and then we will take a slighter case In such cases it is absolutely absurd to give the child food All these artificial foods, prepared from cream and water in all the different ways, are simply due to the hastiness with which the physician advises the parents to feed the baby When a baby vomits frequently or has a diarrhea, it should not have any food, but its stomach and intestines should have a rest The parents should be told that a day or two, or even three, of fasting for the baby will do it good and the introduction of food will do it harm If the baby's stomach and intestines are brought into a better condition by simply fasting, or what I would rather call rest of the stomach and intestines, which is recognized as a therapeutic agent in other diseases, if rest is carried out with other devices for keeping the child at rest, and its stomach and intestines are brought into good condition, I think the food the child has had will do well if it is introduced at first in very small quantities The first principle is not to overburden the system So many foods are being analyzed and all that, but it seems to me that is all superfluous if we do not give rest to our little babies If a baby has proper rest after it has assumed its former condition and can perform its natural functions, and the food is introduced in small quantities, I think this whole question of artificial feeding may be considered entirely superfluous

Dr **Wilson** of Pennsylvania—I want to endorse what the gentleman from Colorado has just said, and to go a little further and say that the most important question that usually confronts the physician in the stomachic and intestinal diseases of children is not what he shall feed them, but how he shall keep them off food I think that is the most difficult question the physician has to consider An article written by Dr McFarland, which was copied in the foreign journals, on the use of hot water, impressed me very much It is difficult to feed children who have been breast fed hot water with a teaspoon It has been my custom to take an ordinary bottle, make it absolutely clean, put in some hot water, add some salt and put a nipple on the bottle I do not take the salt out of the salt cellar I have a tablet, which is composed of chlorid of sodium and colored red It is very attractive I tell the mother to dissolve this in so much water It has proven a most satisfactory method, keeping the child on this until the craving of the child for food shows it is in condition to receive food I have had children whom I have had to wean off the hot water to get them to go back to the milk

Dr **H M McClanahan**, Omaha—We should resort to artificial food where it is necessary If we commence the care of the mother sufficiently early, there should, as a rule, be no reason why the mother should not nurse the infant, except in cases of disease In one case, that of a German woman whose child suffered from colic and indigestion most persistently and constantly about twenty three out of the twenty four hours, an analysis of the mother's milk revealed about 4 per cent of cream and 4 per cent albuminoids There, in my judgment, was the trouble After giving the mother a thorough course of the salines, removing the albuminoids, and putting her on proper food, in about a week there was no trouble nursing the child In the second place, as to the artificial feeding of babies, I can endorse what the gentlemen have said, but we ought to get so we can artificially feed these babies without producing indigestion We should teach the mothers to feed them so they would not have these attacks By changing the formula, I think it is an easy and simple thing to get a food that will meet the requirements of a case I always give the proportions in ounces so the people can understand it By changing the proportions there should be no trouble This we can do without resorting to any of the patent foods I think we should just as well give an adult patent medicines as give the babies patent foods There are none of them similar to human milk First, we should get a food that the child will take and digest without suffering Next, we must get a food that will properly nourish the child Condensed milk babies, many of them, get along very comfortably they get fat, flabby, and always rickety I have never seen that fail where they were fed on condensed milk exclusively So it is a question of getting a food that is digestible and that will properly nourish the child—a food that will not only make it fat, but will develop its muscular and nervous system as well We should make a food as nearly as possible identical with the normal human milk when we can not get that That, I believe, can be done without resorting to patent foods These societies should condemn the use of patent foods

Dr R B **GILBERT**, Louisville—The question of feeding the baby when the mother's milk has failed, is certainly one of the most perplexing, especially to a city population, where the cow's milk has to be obtained second hand to a large measure I concur freely with the gentleman who has spoken with reference to overfeeding The nursing bottles are ordinarily made to hold half a pint for an infant a year old, whose stomach, when considerably distended, will hold only an ounce and a half or two ounces Consequently overfeeding is one of the causes of much trouble, even if the milk be wholesome Another matter it is well to look after is artificial feeding when the mother's milk fails Cow's milk or possibly the goat's milk may be good, and the mare's milk has been used largely in some countries, Russia especially, but the cow is a domestic animal in this country from which we get our milk supply, and her milk may be modified by the addition of a little water and a slight amount of alkaline matter—because it is always acid, at least shortly after it is drawn—and then secure a specific gravity of about 1032 There is much trouble getting the milk in the city and also often in the country The milk is likely to become infected Next to the cow's milk my experience is that condensed milk is the most reliable artificial food, it is certainly the most convenient It can be obtained in small quantities and quickly prepared The water should always be sterilized, which can be done readily by boiling The assertion that rickets always follows the use of condensed milk is not true according to my experience You can prevent that by giving the lime salts either with it or by a separate prescription

Dr **WILSON**—That is begging the question, a child fed on condensed milk alone for six months will develop rickets

Dr **GILBERT**—In that I agree with the Doctor If you will feed a baby on any one food, except mother's milk, for six months continuously you are apt to have one or another or perhaps several derangements One derangement you are likely to have is scorbutus, which is, I believe, likely to occur where you use condensed milk I have seen it in two cases where the child was fed on Horlick's food In one case it went on until there was a separation of the epiphysis of one of the bones We were abstaining from all acid foods from the idea that acid produced scorbutus, but there we went just to the opposise extreme and gave scraped apples and fruit juices and all that and the baby got along all right We should change the food of the infant frequently, putting him on cow's milk two or three months, then on-condensed milk two or three months, and I would not object even to Horlick's food A little chlorid of sodium should be added to the baby's food Where I live we have an abundance of blue grass and blue grass milk, but the people in the city do not get good milk, because it is modified by adding water and using agents to prevent fermentation, boric acid being used frequently If you can get good milk and add a little chlorid of sodium, the baby will get along very well The starvation of a baby that has been overfed has, I think, been carried a little bit farther than the necessities of the case require If you give the baby hot water six or eight hours and then resume its dietary, it will do all right I have taken infants in apparent collapse from choleraic disturbance of the bowels and held them off on hot water six or eight hours and then given milk or condensed milk in teaspoonful doses an hour apart I believe prolonged fasting is objectionable because the child will reach a point after a while where he will refuse to take anything

Dr **CHESBRO**—The matter of withholding food from the infant is important, but I believe it can be carried to excess We not only are in danger of losing the confidence of the mothers but we may weaken the infant After six or eight hours I believe the albumin of egg stirred up in water can be given with good results That helps to satisfy the thirst of the child, which is intense, and is well borne by the stomach and it helps to-keep up the nutrition of the child I believe a good many of these attacks of indigestion are due to overfeeding in the first place Indeed, I think the reason so many mothers nurses and doctors have trouble with cow's milk and are so anxious to use patent foods is because they do not use it properly They do not properly dilute it If they simply dilute the milk properly and add sugar and lime water the child will do very well In regard to the use of condensed milk, my own idea is that condensed milk modified so simply as one of the gentlemen who preceded me said, is one of the poorest foods we have Condensed milk, in order to approximate anything like the composition of human breast milk, can be diluted only about 1 6, but not one child in thirty can take it diluted 1 6 Other ingredients must be added notably fat But it is surprising to see how once in a while a child will get along on condensed milk A child I saw, with a temperature of 103 degrees, consolidation of the left apex, some evidence of bronchitis and a loud systolic murmur, indicating congenital heart disease, I found was fed on condensed milk diluted 1 30 and in addition was having two slices of bread a day The child had previously been doing well As the gentlemen said, I do not believe it is possible for a child to be fed on any one food alone for any length of time without the development of rickets For the first months of life condensed milk makes very good food It makes fat babies, but as a matter of fact they have little resistance Almost every child will develop rickets unless in a few months it has a pronounced modification of its diet

Dr S E **WOODY**, Louisville—The number of prepared and patent foods shows that they are inefficient Cow's milk properly prepared certainly gives us something we can feed nearly every child The use of the different formulæ for preparing it and the addition of sugar of milk, is better than to use such a thing as condensed milk, particularly the Eagle brand, which contains about 50 per cent. of cane sugar to preserve it Cane sugar is a sugar which is not digestible by the child I have discarded the use of prepared foods almost altogether Of course there is no rule which we can lay down by which we can feed all children alike We have to use beef juice and different preparations of meat in order to get them over some of the disorders of digestion

Dr **WHITNEY**—I think it would be interesting if the Chairman would give us the results of the collective investigation on scurvy

THE CHAIRMAN—There is a committee of the American Pediatric Society which has been studying the etiology and symptomatology of scurvy We recently had the report presented at the meeting in Cincinnati We had collected altogether 379 cases of infantile scurvy We know that it is a distinct dietetic disease, and represents faults in diet There are many other disturbances which are produced by faults in diet but in scurvy it is very interesting to study the relation of the food used to the disease The committee has been careful not to use any names They do not say such and such a food produced the disease We do not want to involve ourselves in any lawsuits, and we only say what food was used when the scurvy developed, and what food was used when the case recovered Two hundred and eighteen cases had been fed on proprietary foods Of that number condensed milk had quite a large proportion of cases We have stated just how many cases were using Mellin's food, just how many were using malted milk, and so on through the list The report will be published soon

Question I would like to ask the Chair whether the long continuance of the one food was considered [illegible] in the scurvy of the adult occurring on shipboard [illegible] attributed so much to the article of food as to the continued use of one article of food

The Chairman—It was the prolonged use of an improper food It was not always one food, for sometimes the child had run the gauntlet of the proprietary foods

---

MILK-MIXTURES AS FOOD FOR INFANTS

Presented to the Section on Diseases of Children at the Forty ninth Annual Meeting of the American Medical Association, held at Denver, Colo, June 7-10 1898

BY EDWIN ROSENTHAL, M D
SECRETARY OF THE SECTION ON DISEASES OF CHILDREN AMERICAN MEDICAL ASSOCIATION—PHYSICIAN TO THE HOME FOR HEBREW ORPHANS ETC
PHILADELPHIA, PA

The ideal nourishment for a child is mother's milk Nature and nature's laws have wisely ordained that the child, whose digestion is unsuitable to the foods of matured years, should be provided with nourishment which in the nature of things is most simple and bears with it the vital ingredients necessary to the child's growth When, by certain causes, the natural method of feeding the infant is interfered with, artificial means are at hand to become the substitute for the mother and bring to the child such food as is alike acceptable to its taste and digestion, and which will add to its growth, prevent disease, and assure it a healthy childhood

As the feeding by the mother or the "wet nurse" is called the "natural" method, so is the other, by reason of its application, entitled the "artificial" method of nourishing, and the sucklings so reared are termed "bottle babies" If we accept as facts the commendations of the various manufacturers of food preparations, nothing could be simpler and easier than to raise a new-born infant artificially You obtain a food which purports to represent the elements of human milk, and prepare and use it according to directions These various preparations may be more or less useful as temporary food for older children, but for new born babes and infants in their first months, according to the unanimous view of all physicians, these foods are not suitable as temporary, much less as sole, nourishment The only true substitute for mother's milk is to be found in the milk of animals For this the cow is principally depended upon, and the percentage of the three important ingredients in human milk and cow's milk is shown as follows

	Fat	Casein	Sugar
Mother's Milk	3 1	1 7	6 2
Cow's Milk	2 5	3 6	4 8

This proves conclusively that cow's milk differs from human milk in the amounts of albumin (casein) and of sugar

Sugar in milk is not intended simply for sweetening, it also has nourishing qualities, and in the artificial preparation of milk it is essential that it be used in the same proportions, and by reason of its digestibility, milk sugar should be used instead of cane sugar The greatest difficulty met with in using cow's milk is the proportion of casein—double that of the human milk It is, therefore, a fixed rule in practice to mix the milk so that the proportions of casein and of sugar be so apportioned that the resemblance to the human milk will be certain, not only in theory, but also in results For the better understanding of the method of mixing, definite percentages have been presented and certain rules have been adopted which, if adhered to, will be most certain of results, and will place the method of feeding by this artificial way upon a classic, scientific basis, with the ultimate result of making the method a truly reliable one, receiving the approval of all I may say that this method of mixing milk is but in its infancy, and that it has not received the attention which it deserves, but I firmly believe it will, by its own worth, be brought to the notice of all, and become the only real and true way of nourishing the infant

Many names have been bestowed upon food that takes as its basis cow's milk The one most widely known, which had its birth in our country, and received its title from one of our members, is the so called "Modified Cow's Milk" Unfortunately, the use of the name as well as the milk is objectionable from an ethical standpoint, being a patented article This, however, can not change its value, nor its utility, and as methods have been devised for the preparation of such foods at home, it can be used and will continue to be used, the patent notwithstanding

Different methods have been devised to so mix the milk as to make it as nearly like human milk as possible Biedert's method of "modified milk" is a mixture of cream, milk and water in varying proportions, according to the age of the child In our country Rotch was the first to place "modified milk" upon a truly scientific foundation He has presented to the profession two methods of preparing the milk, one may be termed "the milk laboratory method," and the other the "home method" Certain percentages have been taken as a basis The elements entering into the food were termed by him, fat, sugar and protein, and the milk laboratories can furnish "modified milk" of any desired proportions upon prescriptions of physicians, exactly as drugs are dispensed by an apothecary While the expense of feeding an infant by this means is very great, other factors of vital importance are against it We are, as it were, dependent upon a laboratory for the child's food, and if some accident should happen to prevent the making of the food for one, two or three days, we would be in an unfortunate predicament The "home modification" would, therefore, appear best, and for this purpose certain instruments, with a certain fair amount of technique, are essential Rotch, as well as Holt, gives many formulæ, suitable to children of various ages, which can be applied in various ways, and which are perfectly satisfactory Lately I have been using "Fat Milk"—the "modified milk" food as prepared after the method of Dr Gustav Gaertner, and known commercially as "Gaertner's Mother Milk" This food is prepared in the same manner as by Professor Rotch's method The centrifuge is used to separate the fat, by so arranging the tube which expels the cream from the centrifuge separator that just one half of the milk contained therein is expelled and collected In this way, as the casein, sugar and minerals are not affected by the process of centrifuging, the percentage of the latter is not changed, while that of the fat is doubled The advantage of this food over the other modified food is that it comes to us already prepared, and simply needs to be heated, and the cans well shaken so that the mixture be thoroughly made before using If the food be permitted to become cooled, it will separate again, and lose the appearance of pure milk I have used "Fat Milk" in various diseased conditions, and have had very fair success

In the preparation of milk foods at the home, I think several points should not be lost sight of 1, the milk should be of undoubted character, 2, it should be free of any drugs, as boracic or salicylic acid, 3, the addition of salt to the food and when sugar is indicated, the use of sugar of milk (milk sugar) instead of cane sugar, 4, the agents used to modify milk

The first three points can be discarded, as, all things being equal, the best milk will be the one taken, and this will of necessity be entirely free from any adulteration The fourth point can not be so easily discarded, for upon this depends to a certain extent the well being of the child Rotch's formula—which may be altered to suit any case—is Fat, 4 per cent , sugar, 7 per cent , proteids, 1 per cent

Taking this as a basis to show how such a formula as this can be prepared, Rotch gives the milk laboratory formula in position, and I think no better way of explaining the method of its preparation can be given than to present both formulæ, as Rotch gives it under the name of "Modifying Clerk's Prescription "

PHYSICIAN'S PRESCRIPTION	Per cent	CLERK'S FORMULA	Oz	Dr
Fat	4	Modifying cream	7	7
Milk sugar	7	Modifying milk	4	7
Proteids	1 5	Sugar solution	8	3
Mineral matter		Lime water	1	5
Lime water		Water	8	6
		Total	31	4

Number of feedings	7
Amount at each feeding	oz 4½
Heated at	degrees F 167
Time in sterilizer	minutes 20
Remarks	

This will be correct as long as it is obtained from the milk laboratory, but when it is to be made at home, it will be found rather a difficult subject For this reason other methods have been used to modify milk in the home, and perhaps the one most used and most favorably known is the "flour-ball" modification This is made by the addition of a tablespoonful of flour, previously prepared by boiling it for five hours, to a quart of milk mixture This milk mixture is graded according to age, as within 1 to 3 months, the milk and water are one pint each, after this period the water is reduced one half-ounce every month, the milk being added to keep up to the quantity of two pints Sugar need not be added to this mixture, or very little Salt, however, I have always used, and in quantity hardly to be tasted To give a taste, as well as to sweeten the food, cinnamon bark has been added This, however, may simply be fanciful, but it is useful, especially in those cases which we term colicky babies Among the proprietary preparations "Imperial Granum" comes the nearest to the flour ball mixture, and I frequently prescribe it when such a food is indicated Used as I have thus directed, it becomes one of the easiest home modifiers Another food that is used in Philadelphia to quite a large extent is what is known as "Mellin's Food " This is also among the simplest of home modifiers The method of its use is milk, water and the food in varying proportions Analyses of the different mixtures have shown it of equal value to other home methods We can also make food of low or high proteids, fats, etc

As the food for the infant depends largely upon the peculiar idiosyncrasy of each child, no fixed rules can be laid down nor followed It must, however be the rule in practice to adapt the food to the child's needs, and not the child to the food The quantity and quality of the food is an insufficient guide Even while it may be of the best, it may not be the one adapted for that individual case We should watch the stools to see if the food be thoroughly digested If the child suffers from diarrhea caused by the food it would be irrational to continue its use It is, therefore safe to take as the guide the stools, and if we find digestion complete, the continuation of the food is in order, but if we find that digestion is incomplete—noted by the color, consistency and presence of cheesy masses in the stools—then the rule will be to at once change the food, and to remove that element that gives rise to the difficulty Milk is the only really honest food to give the infant Modified to fit its condition, we are on the safe path to perfect health

DISCUSSION

Dr **SLAGLE** of Minneapolis—The great trouble with us in the West here is the milk supply The milk that we are feeding our children in Minneapolis is secured once a day, and the milk they get this morning is not milked this morning but at least part of it was milked yesterday It will not be long before even in cities of this size they will have milk laboratories We all admit that cow's milk is the best food, next to mother's milk, and can be modified to do away with the commercial foods, but at the present time we are compelled to use the commercial foods to a large extent in Minneapolis and they do, I believe, throughout the West

Dr R. B **GILBERT**, Louisville—I was glad to hear that in modifying milk the essayist mentioned the flour ball He has shown us the necessity of phosphorized elements in the infant's food and shown the minute work of nature in converting the material into food But that is not new by any means although the scientific elucidation of it is somewhat recent In my earliest experience in baby feeding in the country it was the custom of the country women to feed a baby with what they called scorched flour, simply converting the starch into a kind of diastase or malt and retaining the phosphoric element That was sometimes very happily used in correcting trouble in bottle fed infants I have frequently recommended the same sort of a plan I want to make one more point about condensed milk The condensed milk must be fresh If a can of condensed milk remains on the shelves of the drugstore or grocery three or four months before it is used, I do not know the changes that take place, but it is not as easily digested I have in my town a grocer who is raising a pair of his own children, twins, largely on condensed milk I give in addition to the milk a piece of bread I have the grocer to bring on a case of fresh condensed milk every week and where I have bottle fed babies in different parts of the city I send them to that one grocer, because I know then they get the milk fresh from the manufacturer

Dr H M **McCLANAHAN**, Omaha—I have entirely abandoned patent food for infants I have had eighteen children under my care and they have all been well developed I have resorted to a formula which any ordinary mother can carry out In the first place, I have them procure the milk from as good a source as possible When they can, I have them procure it twice a day , when they can not, I have them procure the milk and skim off the cream Then I have the mother to take three ounces of the cream, two ounces of good milk , one ounce of milk sugar and ten ounces of water First dissolve the milk in water, sterilized, and then add the milk and cream This is placed in nursing bottles with cotton stoppers A sterilizer can be made out of a bucket with a perforated false bottom Five of the nursing bottles are placed on the false bottom in the bucket and placed on the stove I direct the mother to leave it until the steam escapes twenty minutes These are then placed in a co' ter When she is ready to feed the baby I tell ttle in a hot water as hot as the ea l degrees, and then the temperature of the milk is about 100 Then the cotton is removed and a clean nipple placed on the bottle and the child fed Another thing I have found by actual investigation is that that is no more expensive than any other method of feeding, not excepting condensed milk itself Milk sugar in Omaha they can buy at 25 cents a pound Then with a sterilized bucket, which costs very little, and a graduate which costs 10 cents, we can take good care of these children From one of the babies I withdrew milk entirely and gave only cream and water In one case I had to reduce the cream until there was only one eighth cream and seven eighths water Then after a few days I increased the amount of cream until I got to about to the normal proportions

Dr **McCONNEL**—Sometimes we have to exclude all proteids That is based on the condition of stools When you have a putrid diarrhea, when you are feeding milk mixtures, you must exclude the proteids If you contine any form of milk, you will not nourish the child Then you must confine it to the farinaceous foods If this is carefully watched and you stop the cow's milk for a few days if you have putrid diarrhea and confine the child to farinaceous foods and a limited diet, after the bowels become clean you can come back to the ordinary food

Dr **JOSEPH CLEMENTS**, Kansas City—Along this line I want to call attention to a boy I have today in Kansas City, over 2 years of age, ruddy and robust and fat and plump and perfectly healthy, whom I have brought up on various kinds of foods, finally coming down to modified milk I first saw the boy when he was three months old The mother was a trained midwife and I supposed she had a proper modification of the milk The child was a perfect skeleton, but I put him on a modified milk and the baby got along well for a number of months Perhaps five months afterward I found the baby in the same condition I found him at first He was a perfect skeleton Then I put him on Mellin's food and he again became fat and apparently healthy The parents were Germans and came back later and told me the baby was bad again Then I changed to condensed milk with the same result as before, that the baby improved and got fat and after a few months became ill again They had sent for their priest, supposing the child would die, and he said there was no use sending for the doctor as the child was too far gone I put him on modified cow's milk and he did well and has stayed in a good condition since He was thirteen months old before the first tooth appeared He now has a good supply of teeth and is in a good condition

Dr J P **CROZER GRIFFITH**, Philadelphia—I have purposely kept in Philadelphia the only out patient department I still have, the Children's Hospital in May, June and July, because I want to be thrown with the class of people who can not get the usual modified cow's milk I do not believe the occasion arises, or only very rarely it arises, where we can not perfectly well feed a child modified cow's milk The difficulty is not great We as physicians should abandon the habit of saying we will give this child an ounce of milk and an ounce of cream and so much water We ought to think in percentages, as Dr. Rotch has so long told us, and then we think much more accurately We do not need milk laboratories They are useful but not absolutely necessary It costs only abou $6 for a Babcock centrifuge and you can then test the percentage of cream your little patients are going to take You can assume that the percentage of proteid will be 4 per cent , it usually runs about 3 5 per cent , so the error is on the right side I would like to refer you to an interesting paper in the *New York Medical Journal*, March 12 of this year, in which it shows how to make the proper percentages and how much milk and cream the mother is to use In Rotch's book you will find a series of tables telling how much milk and cream you are to take They are all right when you are in your office, but at the bedside you can not remember them So I have a table copied in my book I know this is simple, for I used it on the poor people, where I have no more opportunity to get good milk than you have in any part of the country

Dr **EDWIN ROSENTHAL**, Philadelphia, in closing—Mr Chairman The idea I had in presenting this paper is that we can modify our foods at home My idea is that this should be the food for healthy children, and in knowing how to properly feed your children you prevent them getting sick If the child has putrid diarrhea, you must not continue the milk, but put it on barley water or whatever you think proper for it Inasmuch as I have seen some accidents occur from the use of condensed milk I am not so heartily in favor of its use The milk had some hydrosulphuric acid in it and spoiled Whereas, in the modification I have suggested, I do not count it up in percentages, I try to make the formula as simple as possible A point I wish to lay particular stress upon is dentition I think the gastric disturbances during dentition are due more to the dentition than to the foods I have a poor class of patients that I do not care to give up, and among them I have seen some remarkable results with Mellin's food and with malted milk, but I can not conscientiously give any recommendation to any food If you modify the milk, whether in percentages or in ounces, you are on the right road to feed your child properly

---

A NEW BREAD FOR DIABETICS

Presented to the Section of Materia Medica Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo , June 7 10 1898

BY N S DAVIS, JR , A M , M D

PROFESSOR OF PRINCIPLES AND PRACTICE OF MEDICINE NORTHWESTERN UNIVERSITY MEDICAL SCHOOL, ETC

CHICAGO ILL

I do not propose to present a formal paper to this Section, but to exhibit a flour and samples of bread which have been invented and prepared by a patient of mine, who, himself a diabetic, has for a number of years experienced the need of a substitute for wheat bread

When treatment is first begun a diabetic should be placed upon a strictly non saccharine and non-amylaceous diet, in order to determine how far the disease can be controlled by diet This change should not be made abruptly, but gradually, during a week or ten days' time If the change is made abruptly, appetite often fails and malaise increases, in some cases untoward symptoms may arise and coma has not infrequently been observed to develop

A rigid diet can not be long maintained Nor is it necessary so to do In the least severe cases a modicum of carbohydrates can be assimilated Just what this quantity is can only be ascertained by a careful study of each case Frequently, during exacerbations of the malady, a relaxation of dietetic restrictions proves better than an increase of them Whenever a strictly diabetic regimen must be adhered to, and whenever one only slightly modified from this must be employed, a substitute for wheat bread is craved No one article of food is more universally missed, if it must be omitted, than bread A variety of flours have been invented as substitutes for wheat flour Gluten flour is more universally used than any other It is almost impossible to make palatable bread from pure gluten All the gluten flours upon the market contain starch in considerable percentage It is better to permit diabetics to eat a given amount of wheat bread instead of unlimited amounts of gluten bread, which contains on the average half as much starch as ordinary bread and is less palatable Bran cakes, soya biscuits or bread, almond cakes, cocoanut cake and peanut bread are other substitutes for wheat bread

Bran flour contains a considerable percentage of starch The cellulose which it contains makes it indigestible and liable to provoke diarrhea Soya flour makes bread which is not very palatable Analyses of the flour vary much, stating that it contains from 3 to 45 per cent of starch The most trustworthy analyses accredit it with about 20 per cent of amylaceous matter Almond flour contains from 4 to 5 per cent of sugar, but no starch It is so rich in oil that it also often produces dyspepsia Cocoanut flour contains a small quantity of sugar From it a variety of bread-like or cake like preparations can be made Peanut flour contains about 14 per cent of carbohydrates It does not make as palatable preparations as either the almond or cocoanut flours

The flour which I show you is made from one of the many edible pine nuts It is fine, slightly yellow, and bland in taste The flour contains no starch and only 7 per cent of cane sugar If bread or other articles of food made from it are raised with yeast, this sugar is decomposed so that only a fraction of 1 per cent can be found in the product I have prescribed it for a dozen or more diabetics during the last few months With few exceptions the bread and cake made from it is relished and found to be an agreeable substitute for wheat bread Two patients at first relished it, ate it with avidity, but at the end of a week or ten days found that it caused indigestion I urge patients to use it moderately, not *ad libitum* Certain patients are told to use it at two of the daily meals and are permitted to use a moderate amount of wheat bread at the third meal

This bread does not produce gases when it ferments If it does not agree with the patient it produces loss of appetite and disinclination for it It contains 19 82 per cent of oil, sweet almonds contain 53 per cent, and cocoanut 70 per cent It is therefore less likely to produce indigestion than flour products derived from either of the other nuts It contains 55 65 per cent of albuminoids, 6 42 per cent mineral matter, and approximately 4 per cent of fiber

It is essential to the treatment of diabetes that nitrogenous waste should be lessened This can be accomplished in part by prescribing oils and fats instead of starches and sugars All these substances retard nitrogeneous metabolism The oil in these nut flours is therefore not objectionable, but desirable if a patient's digestion is fairly good

I believe the best results are obtained, if substitutes for wheat bread must be prescribed for diabetics, when patients are gradually accustomed to their employment and when they are used intermittently rather than constantly From this flour which is known as the Chicago Sanitary Flour, a variety of food products can be made—bread, muffins, pancakes, cake, cookies, etc Some of these must be made with baking powder instead of yeast, and contain a small per cent of cane sugar They are not as well adapted as the others are for diabetics, but are useful for those dyspeptics who do not tolerate amylaceous food

---

Chronic Buzzing in the Ears —For this quinin is warmly recommended by Bouchard It exaggerates at first, but later diminishes very much the noises, not only in dry and sclerous otitis but in Meniere's disease He adds that complete integrity of the ear is rare among the insane, and that the treatment of the ear troubles is an important feature of the cure —*Rev de Laryng* , October 1

DENTITION

Presented to the Section on Diseases of Children at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY JOSEPH CLEMENTS, M D
KANSAS CITY MO

Speaking of dentition in the concrete, the importance of the subject looms up considerably when we remember that there are fifty three dental colleges in the United States, with more than fifteen hundred graduates, interested and employed in the science and art of the care and treatment of the teeth, or in more modern terms, doctors, whose practice is limited to oral surgery And such proportions is this assuming that ere long we shall have to add to the three learned professions—theology, medicine and law—a fourth, namely, dentistry, and the instructors in our medical colleges will have to enlarge the curriculum more fully, embracing this important branch of medical knowledge, or there will be other Edward Brannigans, D D S , besides the one who addressed you last year at Philadelphia, whose words will be somewhat of a reproach on our lack of this necessary knowledge

I wish here to call your attention to an excellent paper by Dr J W White published in the *American System of Dentistry*, which throws considerable light on what I may term vexed problems in dentition

I desire to acknowledge courtesies accorded me by D McMillan, M D , D D S , president of the Western Dental College of my own city, for besides the dissection of subjects in embryo obtained in my own private practice I was permitted to examine the many skulls and casts, etc , of fetuses and children in the laboratory and museum of the college

As a general statement I may say that the evolution and development of the teeth are the same and in the same physiologic way as that of the nails and the hair, only the nails and hair are in a more perfect state at birth These are fully formed and developed at the end of intrauterine life Indeed in a fetus of not more than the seventh or eighth week the nails, I have found to be in appearance as perfect, almost as my own, though I found no budding teeth

Physiology and anatomy teach that in the seventh week of germ life a groove appears in the jaw, termed by Goodsir, "the primitive dental groove" From this groove and at its base papillæ arise, sacs form enclosing these, which become vascular basic and other salts accumulate and thus the milk teeth are developed Small grooves behind these first evolving teeth, and still during fetal life, are observable and in process of time these are converted into cavities, with their vessels and blood supply, and thus the process is duplicated and repeated in the formation of the second or permanent teeth Prolongations or extensions backward of and from the original groove, one at a time, and after the growth of the twenty teeth taking the place of the deciduous teeth, constitute nature's provision for the completion of the set The nucleus of the first teeth is "the primitive dental groove" The same for the permanent teeth is "the secondary dental groove,' or rather grooves thus providing for twenty of them The remainder developing from an extension laterally from the outermost mature tooth which when sufficiently advanced continues or extends the groove for the next tooth, the process being again repeated, making three on each jaw, each of which may be said to be singly and independently developed. During this second dentition the roots of the first teeth are absorbed, as I have often observed when extracting the milk teeth. The crown, neck and fang which make up the tooth are composed of the pulp, the dentine and enamel, and these are different in their histology, the various ingredients of the enamel and dentine being worked up, so to speak, by a process of calcification. As soon as this calcification is sufficiently advanced the irruption of the tooth takes place, and this occurs, beginning with the fifth or sixth month, and continuing on at intervals to the end of the second year.

The evolution of the teeth is without doubt a continuous process, the irruption of the same is at stated periods, in more or less regular order. I believe "Gray's Anatomy" is authority for the statement that as soon as calcification is sufficiently advanced the irruption of the tooth takes place, and I am equally sure Dalton's or Flint's Physiology teaches the same. In the "The American Text book of Diseases of Children," Dr. Forchheimer says: "The greater part of teething is accomplished before the child is born," and also, "This process of development has taken the whole period of fetal life, so that the child comes into the world with all its teeth fully formed within the jaw." The Doctor has certainly somewhat overstated the facts in the case. I have examined a number of fetuses of the advanced periods, sixth and eighth months, and did not find the teeth in a condition to warrant that statement. In many skulls, embryo and infants, of various degrees of growth, ranging from three months of the former to several years of the latter, I did not find it so. At birth only about three fourths of the crowns of the central and lateral incisors, and less than half of the crowns of the molars, of the first set, are to be found, the roots being still almost entirely undeveloped. The dentine and enamel of the incisors begin to calcify at the seventeenth week of embryonic life. At birth the roots of the incisors only just begin the process of calcification. Not until three months after birth do the crowns of the cuspids and molars begin to calcify, and the roots of these deciduous teeth are not completely formed and calcified until the twentieth or twenty-second month after birth.

I refer to this particularly, because if the teeth were fully formed at birth and there were nothing needed but a *vis a tergo*, to bring the teeth through the gums, then much of the phenomena observed during teething is not to be accounted for in the way we have usually accounted for it. The aim of this paper is to ascertain what causative relation there exists, if any, between teething and disease in children. I hold that the process of teething includes much more than the mere projection through the gums of previously formed teeth. The generally received view is, that the physiologic process of the development of the teeth, beginning in fetal, is projected on into, and continued in infantile life, so that a considerable part of teeth formation, as well as their irruption, is included in the term dentition. Besides, in regard to the second dentition it is established that while beginning early in embryonic life, much the larger part of it is carried on after birth, and therefore during the first months and years of the infant's existence, we have what I may call the complicated phenomena of the development and perfection of a large part of the first set of teeth, *and then irruption*, and at the same time a large part of teeth formation of the second set. By the time of the completion of the irruptive process of the milk teeth, there are also the germs of at least twenty of the permanent ones, in most of which formation is considerably advanced, and calcification already begun.

During the first two years of life a child is building its first teeth, during the first six years it is building its permanent teeth, and attacks of sickness and disease during these first years of childhood can be discovered and affirmed many years afterward by an examination of the teeth, and a near approach to a diagnosis of the nature of the disease and the exact age at the time, can be made. Such complicated phenomena going on after the child has just emerged from its embryonic into its actual life, and continuing during the earliest and tenderest months of its existence, must be a great tax upon the resources of the infantile cosmos. Some one has said "Woman is an *uterus* with necessary organs and parts associated." With equal aptness, at least, we may define a child as a *mouth, with necessary parts associated*. Dr. White, in the article I have referred to, has shown that the mouth of a child is related and associated by continuity and contiguity to most parts of the entire body. By continuity of its mucous membrane, and especially through its blood and nerve supply it is related to almost the entire organism. The trigeminus, the nerve of the mouth and teeth, which is the largest of the cranial nerves—and whose sensory fibers from its posterior root form the semilunar ganglion—receives filaments from some of the plexuses of the great sympathetic (the carotid and the cavernosus plexus, connected also with the third and the sixth, and sometimes the fourth, nerves directly and indirectly with many others), brings the mouth *en rapport* with many different parts of the body. This fifth nerve is somewhat like the par-vagus or a spinal nerve, in the ramifications of its branches, and in its diffused influence and power. It can readily be seen then, that abnormal conditions here, and during the period of dentition, may reveal themselves in localities and parts far removed from the buccal cavity, just as an irritation in the floor of the fourth ventricle may reveal itself in an attack of pseudo angina pectoris. The connection between teething and diseases in children is nervo vascular, disturbances of the fifth nerve acting as a producing cause.

The irruption of the teeth, as Dr. White says, is a physiologic and anatomic *crisis*. Or, as Dr. Love of St. Louis puts it, "In teething the child is passing its first *climacteric*." Physiologic dentition, with normal enviroment, produces little or no disturbance, perhaps, complicated and exacting as its wonderful phenomena may be. Yet this is not the rule in these modern times. It is a fact that infant mortality is largest during the teething period, more than one-third die during the first year, and about one half of all children born die during the dentition period. Dentition produces or aggravates the causes of disease. Teeth irruption produces nervous phenomena which increase susceptibility to disease and lessen the power of resistance (White). Impaired nervous equilibrium puts the child in the power of disease, so to speak. Nervo vascular activity is increased during teething, producing functional derangements, so that a child without or beyond this condition, would tide over a spell of bad weather, for instance, or an attack of indigestion, with little or no disturbance, but during this disturbed equilibrium of the nervous system, as White puts it, these vicissitudes result in disease Dentition is physiologic and natural, to be sure, and so are other functions in the human economy, and yet they are disease-producing or superinducing, witness the disturbances during child-bearing and during menopause And doubtless they may all be produced by similar causes, the disturbed equilibrium of the nervous system or the nervous vascular excitement playing a large part in the etiology of the affections

I am aware that medical opinions differ somewhat in regard to the place teething occupies as an etiologic factor in the diseases of children A generation or two ago dentition was allowed to play a prominent and solitary part as a cause of disease, today some would deny it any place whatever as a disease-producing factor The pendulum swings from one extreme to the other, as Dr Robinson of New York says " Whenever there is a reaction from an erroneous theory or faulty method of treatment, the reaction is sure to go to an extreme " The truth lies in the middle ground That teething may stand as a contributing factor in some considerable disturbances to the health functions, initiating abnormal conditions, which, joined and fostered by other factors, result in disease and death I certainly believe Ellis, in "Wood's Library, says "Diarrhea of teething is natural" Thies attributes dental paralysis to the molar teeth Smith affirms "Among the most common pathologic results of difficult dentition are certain affections referable to the cerebro spinal system, eclampsia being one of the admitted results" Smith also lays down the following rule in diagnosis of the etiology of these infantile disturbances "When similar symptoms arise at each epoch of teething, and subside with the subsidence of the gingival turgescence, teething must be regarded as the cause" Carmichael says " The evolution of the teeth is one of a number of developmental processes going on in the body, and organs and tissues are prone to disease in proportion to their normal or physiologic activity," and 'The nervous system is at these times always in a state of hyperactivity" Speaking more particularly of the philosophy of the connection between teething and those disturbed conditions, Bouchut says "Convulsions in teething arise from nervous excitement, from pain and disturbance," and who that has had any experience with children can question the assertion? I must set myself down as an advocate of the use of the gum lancet, in suitable cases If one has ever seen a child in an eclamptic seizure, muscles rigid, eyes rolling, gums tense and inflamed, and has applied his lance, and in a few moments observed the spasm relax and cease, and the child open its eyes in evident relief and ease, it will require no words of mine to convince him that there is still a place and use for his lance in difficult teething Barrier affirms "Diarrhea is caused in adults by sudden emotion of grief or fear," and in answer to the question, How? I believe his answer was "Reflexly and by central nerve irritation" Diarrhea in teething may doubtless be explained in the the same way An aged clergyman, a chaplain, who had attended many executions of murderers, told me that the bladder always emptied itself and that frequently the bowels were influenced in the same way during the last moments The one philosophy applies to all the different instances

Teething is no doubt a cause of disease, a superinducing cause at least It is not sufficient to say teething is a normal process and will take care of itself Possibly it would if parents were normal and habits of life were physiologic and hygienic but in the conditions of modern society prevailing today, and so many babes " brought up on the bottle ' of so many of which it may be said with truth, "There is death in the bottle," the slaughter of the innocents goes on by the thousands every year

If, as I maintain, the complicated and duplicated process of teeth formation is projected from germ into actual life, and the development of the permanent teeth is taxing the powers and resources of the little cosmos at the same time and while the irruption of the just-completed first teeth is taking place surely this is a time when the aid and skill of the well-informed physician may be needed Little drug medication will be required, the less the better, usually But first correcting the condition and the habits of the mother herself, keeping away from them the patent nostrums they are made to swallow by the tons in-weight every year, superintending their food supply so far as possible, and rendering timely aid during the periods of disturbance as they arrive, infant mortality may be reduced to a much lower percentage than we now have it

DISCUSSION

Dr Slagle, Minneapolis—I remember Professor Bell of the University of Louisville saying something that struck me as good philosophy, he said there is nothing easier than for a man, who is smart and well posted, to build up a nice theory, except the facility with which another equally smart man will explain it all away in another way and show up his mistakes A man who has been in the practice of pediatrics for over forty years and a teacher of pediatrics for fifteen years, is apt to be dogmatic, but the longer I practice among children the less importance I place on teething as a factor in the causation of disease The medical profession is divided on this subject considerably and possibly will be for some time, still the general trend of the profession is along the line I have been speaking I believe it is our duty to teach the laity that the symptoms attributed to teething and worms are due to other things When I am called to a case of eclampsia I will search for every other cause first and then if I can not find any other cause I will look to the teeth, and I will scarify them if necessary I formerly scarified twenty times where now I scarify once I want to emphasize that the longer I practice medicine the less stress I lay upon dentition as a factor in the causation of disease except as a predisponent

Dr Richard, New York—Personally I must endorse the remarks of the last gentleman, or at least, say that it is the belief I have followed for some years and I have not placed a great amount of stress on dentition We do have to face this as a very common expression among the laity, that the child is teething I have followed the authorities cited by Dr Clements in which dentition is considered coincident with other changes going on in the life of the infant At the time of the eruption of the teeth I understand there is simultaneously a change in the mucous membrane and the secretory apparatus of the digestive tract, which causes disturbance of digestion In some cases the disturbance is trivial, in other cases it is serious I have often used the following illustration A manufacturing plant which requires a day gang and a night gang, is thrown into more or less confusion as the day gang goes off work and the night gang comes on There must be more or less disturbance I feel as if dentition is coincident with these changes, which are going on in the alimentary tract, which are to be looked upon as necessary disturbances and combated when necessary

Dr Louis Fischer, New York—I heard part of the paper only but I should like to be put on record as believing that dentition is a purely physiologic process I believe with Jacobi and others that all the pathologic changes noted during the period of dentition can easily be accounted for if we will look to their true etiology I am confident that especially in summer a great many of the diarrheas we see at the various clinics which the mothers attribute to teething and state that until the teeth come out the diarrhea will not stop, are due to other causes In winter when we have pertussis or a cough, it will invariably be laid by the laity on these four little teeth I would like to ask the essayist whether he believes the convulsions during dentition are due to a reflex action, or whether he looks for another cause of these convulsions

Dr JOSEPH CLEMENTS, Kansas City, in closing—The criticisms are just what I wanted to get and tried to call out I have seen the trend in the other extreme Teething I believe acts as a predisposing cause I will now speak of convulsions The other day I was called to see a case of convulsions A little girl came to my office from about three blocks off and said the baby had fallen out of a chair and was dead I found the baby in convulsions I began to look for the cause, looked at the diet, the passages and the bowels and inquired in all directions I could learn nothing from the mother that would give any light on the subject I gave the child an emetic and used an enema of hot water, from both of which I got very little result I then inquired about the teeth and found four molars just breaking through The mother told me the child had been perfectly well except for the past week it had been peevish and irritable They did not know what was the matter with the child and thought it was just a bad temper It seemed to me the teeth had something to do with it Possibly the diet played a rôle, but there was very little to substantiate that view I could get scarcely any response from the emetics and little from the enema The teething I believe may have produced a reflex action through the nervous system and caused the convulsions, just as an irritation in the fourth ventricle may produce pseudo angina pectoris

SOCIETY PROCEEDINGS

The Chicago Society of Internal Medicine

Regular Meeting, Oct 19, 1898

Dr JOHN A ROBISON, president, occupied the chair, and after the minutes of the previous meeting were read and approved, Dr J M G CARTER of Waukegan was elected a member

Dr ADOLPH GEHRMANN read a paper entitled

THE RESULTS OF WIDAL'S TEST IN THE DIAGNOSIS OF TYPHOID FEVER FROM DRIED-BLOOD SPECIMENS

The use of dried blood as a means of collecting and preserving specimens of blood for the diagnosis of typhoid fever, first suggested by Wyatt Johnston in 1896, has been generally used by health authorities as a means of diagnosis since that time It has been subject to some modifications, but as used in most places it is essentially the same method originally proposed by Dr Johnston In Europe dried blood is seldom examined, at least published statements of this use are not to be found Indeed, Widal's test has been more widely adopted as a public health diagnosis in America and England than it has been on the continent, and in the United States and Canada it has been used to especial advantage The chief objection to the use of the dried blood specimen is inablity to obtain accurate dilutions, but it may also be said that all the other methods of applying the Widal test require considerable skill for the collection of the serum and the measurement of the dilution, making them, therefore, too complicated for utility in public laboratories

The most accurate and reliable examinations are those in which, in addition to the other details of technique, some cognizance of the reaction as related to the degree of dilution is taken In developing the dried blood method various attempts have been made to procure a measured amount of blood at the time of collecting the specimen The use of the platinum loop, by which drops are collected and deposited separately upon paper or glass and then dried, has been extensively tried These dried drops of blood are then units to be followed in making the series of dilutions We have found that in using the platinum loop in this way there is a possibility of considerable variation in the size of the drop For instance, the loop may be filled evenly from side to side, or the drop may be almost spherical, bulging out from the loop, and the quantity contained may then be two or three times what it would be if the loop were simply evenly filled Another method is that in which capillary tubes, as proposed by McFarland, are filled with blood, which is allowed to dry in the tube The capacity of the tube is known and is as a unit and the dilution is made by crushing the glass in a mortar with a measured quantity of culture or water In another method the blood is dried and weighed and the dilution calculated from the weight This method is now used by the Baltimore Health Department The chief danger in this method is that the serum will separate in drops from the clot that forms and in weighing one may have a greater weight of corpuscles than if the entire mass of blood had dried evenly When every particle of the dried specimen can be weighed the estimation by this method is very accurate Considerable blood is also required in order to make weighings No scheme yet proposed has supplied an easy way of obtaining a definite quantity of the dried blood, at once exact and suitable for the skill of every one But like many technic examinations, serum diagnosis requires that operators have a thorough acquaintance with the method used The same result may be obtained by other observers working in another way

Biberstein has recently deprecated the dried blood method as impracticable, saying, as the agglutinating substance exists only in the plasma or serum, and as the volume of corpuscles in a given unit of blood, especially in pathologic conditions, varies in a marked degree, it is impossible to procure an accurate unit from which to estimate the dilutions when the corpuscles are present Further, he holds that the use of attenuated cultures does not facilitate the diagnosis in the dried blood method The value of the different methods of conducting the diagnosis can only be determined by the results of a large number of examinations If such examinations can not, in the main, be shown to be correct, we will have to agree with Kuhnan, who concludes that the serum diagnosis requires an exact laboratory study, in which form it is not suitable for general practice The deductions from the examinations of Johnston, Bloch, Stewart, Westbrook and Wilson and our own series of 109 previously reported results, do not seem to warrant such a limited application Stewart found in 1000 tests made in Philadelphia, 969 cases correctly diagnosed In the 31 failures reported the reaction was present three times in cases that were not diagnosed as typhoid, while in 28 it was absent in cases that subsequently proved to be typhoid In our own series of 109 examinations in 1896, the test failed in 7 instances, the reaction being observed in 5 cases that were not typhoid and being absent in 2 when typhoid was diagnosed Two of the five cases mentioned, however, presented undoubted histories of having previously had an attack of typhoid fever The reports of most observers seem to indicate the possibility of a small percentage of failures in making a positive diagnosis, even among those depending entirely upon the examination of the serum, as Comba, Ziemke, Stern and Courmont They have made the most careful dilutions in series for the different cases that they have examined Whatever method is used, the failures are due to the absence of the agglutinating substance during the first days of the disease, and on the other hand, to the presence of an unusually strong, normal agglutinating substance

In regard to the influence of a previous attack of typhoid upon the test, opinions are now giving it less importance because it has been found, by repeated tests after typhoid, that the real reaction of the disease disappears in adults during the first six months after convalescence, and in children somewhat more quickly (Courmont) That the reaction does not occur early will be discussed later

It is admitted that the careful determination of the limits of the reaction, i e , the dilution in which the normal agglutinating substance is still active, and the degree of dilution in which the specific substance can be shown to be effective in cases of typhoid, must be differentiated The experiments of Stern, Sklower and Biberstein have fairly demonstrated that a dilution of serum, 1 to 50, entirely removes the danger of observing a normal or pseudo reaction As the specific reaction is marked in dilutions much beyond this, it would seem that all danger of mistakes from this cause could be entirely avoided by sufficiently diluting the blood or serum in applying the test The observation of the limits of the effectiveness of dilutions in producing agglutination is of value in following the progress of a given case, but for the purposes of diagnosis it is simply desired to establish either the presence or the absence of the phenomenon

The methods used in the diagnosis of typhoid in the laboratory of the Department are the same as those described by Wynekoop in the "Biennial Report of 1895-96" The specimens of blood are obtained without any special reference to the quantity, it simply being requested that enough blood be sent The cultures that are used are bouillon cultures made from stock cultures on agar These bouillon cultures are grown at room temperature, and are used during a period of twenty four to fifty hours after being planted The stock cultures are also grown at room temperature In this way typhoid bacilli are obtained that are not very actively motile, but still are always evenly distributed in the bouillon and show great uniformity in their motility

In making the test, the dried blood is dissolved in distilled water, and enough water is used to give what would be considered a dilution of from 1 to 15 or 20 It is, however, an estimate and not an accurate dilution After allowing the water and blood mixture to stand a few moments, so that particles may settle, a drop is taken, with the platinum loop, from the top and mixed with an equal sized drop of bouillon culture This is placed upon a cover glass in a hanging drop preparation for microscopic examination It has been found that the amount of color in the drop is of considerable value in determining whether sufficient dilution is present, and from our experience this is taken into account The dilution in the first examination is about 1 to 30 or 40 In cases where the reaction seems to be unusually prompt, the original mixture of blood and water is diluted with a drop of distilled water, one drop of the mixture and one drop of distilled water, and this is again mixed with the culture and examined, thus making a further dilution In typic cases, dilutions may be carried on in this manner three or four times before the reaction disappears The time of observation is continued to six hours before it is positively reported that no reaction is present The specimens remain at room temperature, but most of the cases showing the reaction are decided in two hours In some special cases the dried blood and mica slip is weighed, the blood scraped upon a watch crystal and the piece of mica again weighed, the difference in weight representing the blood solids or about 20 per cent of the original weight of blood Distilled water to replace the blood water is added, and dilutions are made by adding more water in the proportions desired It has been found that at least 5 milligrams of dried blood are required This amount can be obtained from five large sized drops of blood A pipette, graduated in hundredths of a cubic centimeter, is used for measuring the water or culture in making these dilutions Prof Klebs has suggested that all the examinations be made in this way, but so far this does not appear to be an imperative necessity

From January 1 last to August 1, there were received at the laboratory of the Health Department 340 specimens from suspected typhoids After some time a letter was sent to the physicians who had sent in the specimens, requesting that they return their opinions as to the final diagnosis or outcome of the cases from the observation of the subsequent clinical course Two hundred and eighty three such replies were received and tabulated, with the original date of the blanks accompanying the specimens, and with the results of the tests made with the specimens

The general summary of this tabulation shows the following result 340 cases examined, 263 clinical reports returned, 57 not returned, 166 reports of occurrence of typhoid reaction and 174 reports of absence of typhoid reaction were sent Of the 166 cases in which typhoid reaction occurred, 135 were diagnosed clinically as typhoid, 19 were not clinically reported, 9 were not diagnosed as typhoid, 3 cases passing from observation Of the 174 cases in which typhoid reaction was absent 37 were diagnosed clinically as typhoid, 38 were not clinically reported, 98 were diagnosed as other conditions and one case passed from observation The correct diagnoses numbered 233 with 46 failures in diagnosis The number of times the results have failed to correspond with the clinical reports is large, and should not be taken as evidence of the actual value of the test

These results are not the results of the examination of 279 patients, but the simple results of so many tests From some of the cases reported specimens were sent in several times and, as will be shown, there is reason for the elimination of a number of the failures The nine cases in which the reaction was present, but which were diagnosed as not typhoid, have the following causes assigned for the sickness Acute perihepatitis, subacute indigestion, autointoxication from slight uremia, case well three to four days after examination, acute enteric catarrh, influenza, cerebrospinal meningitis, malaria, enteritis In none of these was there a record of a previous attack of typhoid In six of them there was evidence of some intestinal disturbance, as shown by the symptoms enumerated in the blank accompanying the specimen However, they can not be explained by offering a doubt as to the diagnosis We have concluded that they are instances of unusually developed normal agglutinating power These nine patients were all over 20 years of age, except the last, where the diagnosis of enteritis was returned, a child 6 years of age The thirty seven cases where the reaction was absent may be divided into several groups Fifteen cases seem to be complete failures, as the examinations were made after the first week of sickness, but there were no re examinations Nine cases were re examined and the reaction obtained with the later specimen, in one instance the reaction was absent the sixth but present the eleventh day another was absent the sixth but present the fifteenth day, another absent the eighth but present the ninth day, and in one of them it was absent the twelfth day but was found on the fourteenth day There is a possible explanation for two cases in that an interval of five days in one and six in the other occurred between taking the specimen and applying the test The agglutinating power of dried serum is lost after a time, and the specimens may not have been under favorable conditions to retain this power In four other cases the blood specimen was too small for a satisfactory test Among the twenty cases from which the blood specimen was obtained during the first week are two of those in which the blood specimen was small and the two cases in which the examination was delayed, the other two were not in this group It is possible, then, that twenty two failures can be explained, but fifteen remained for which there seems to be no explanation Adding these fifteen to the nine cases of failure in which the reaction was observed, there are twenty four failures in 279 examinations, or 8 6 per cent of failures Further, it is noted that in the group of failures there are three cases of typhoid and pneumonia The effect upon the reaction in complicated cases of typhoid has not been fully studied Complications are reported in five cases in the series, that were correctly diagnosed, pneumonia, nephritis and tuberculosis were noted Ziemke reports cases of pneumonia and tuberculosis where the complicating conditions did not prevent the reaction It is probable, then, that the failure in these cases is not due to the presence of a complication

As regards the value of the test in typhoid, it has been shown by numerous published reports of examinations that the results are uniformly positive in well marked cases of typhoid If the possible cases of failure, viz, the short duration of the sickness at the time of examination, and the absence of a previous attack of typhoid, can be eliminated, the test becomes an absolute sign Under general circumstances, however, a single test is simply presumptive evidence It is clearly not an early sign, no earlier in most cases than the recognized symptoms of typhoid Frequently, however, the reaction is found early, but in these cases it is sometimes difficult to decide as to the real time of beginning of the sickness, as happens in those patients called walking typhoids The re examination is a highly important part of the test and is the only way to increase its reliability Ziemke reports a case of absence of the reaction on the eighth day but present on the tenth Biberstein reports the test made on verified typhoid patients 8 examinations the first week with 2 failures, and 32 examinations the second week with four failures One case was negative at the first examination made during the first week, and also negative for the second examination, made the eleventh day, but the reaction was obtained at the third, on the eighteenth day Another case was negative on the ninth and fourteenth days, but positive on the nineteenth day These results, which are similar to our own, go to prove the value of re examinations In the series of cases showing clinically as typhoid, some had the reaction early, one on the second, eight on the third, four on the fourth, and three on the fifth day

In the examination of cases that are not typhoid, the absence of the reaction during the first week is only presumptive evidence Bloch and Bates suggest that those cases in which the test is absent on the tenth day of the sickness should be regarded as not typhoid Among the failures in obtaining the reaction in our series of examinations, are four tests which were made with blood from cases diagnosed clinically as typhoid, one taken from the tenth day of the sickness two on the twelfth and one on the sixteenth day One of the cases examined negatively on the twelfth day was positively diagnosed on the fourteenth Apparently there is no definite time for the appearance of the reaction in typhoid, and the fact that a certain number of days of sickness have passed without the reaction does not necessarily justify the conclusion that the disease is absent

Dr Gehrmann is of the opinion, from the results of the examinations as conducted by the department, and from the expressions of opinions of those practitioners who have availed themselves of it, that it is of considerable value in diagnosis These facts warrant continuance of the typhoid diagnosis by the department, and for the present at least, the use of dried blood specimens principally, because of the simplicity of the method Public health authorities are not obliged to employ the typhoid diagnosis as they are the bacteriologic diagnosis of diphtheria and cholera, because the treatment of typhoid is not conducted by health departments, nor are these patients quarantined Here in Chicago, however, typhoid has been such an important factor in the health of the city, and has such an influence upon the death records, that every means for the study of the disease should be used and improved If it can help diagnose the death returns more accurately, and if it can assist in showing changes in mortality from time to time, a better basis is offered for observations as to the effect of sanitary measures introduced to control the disease

Finally, in view of the 8 per cent of failures in diagnosis that appear from the department's examinations, these conditions should be considered, which may assist in correcting the results The directions for obtaining and transmitting specimens must be closely observed, especially as to the drying of the blood Several examinations of each suspect should be made when the first test does not appear to be conclusive In the laboratory further dilutions of the blood solution must be made and tested in those cases showing the reaction In this way normal or pseudo reactions can be eliminated By closely observing these details, it is highly probable that the test will be more exact and the failures fewer in number

Dr J M G Carter of Waukegan followed with a paper on

THE TREATMENT OF TYPHOID FEVER, BASED UPON A STUDY OF SEVENTY CASES

He drew attention to some thoughts in reference to the treatment, and the resulting conclusions are the outgrowth of his experience His general experience in the management of typhoid fever was as unsatisfactory as that of many other physicians until he adopted his present line of therapeusis, since which time he has treated seventy cases His observations before he began the treatment of this series of cases convinced him that the danger in typhoid fever is the pronounced exhaustion present in this disease, which seems to be due to a deterioration or destruction of some of the ultimate cells or tissues of the body, and he believes there is a general consensus of opinion in the profession that this deterioration or destruction is due to the products of the typhoid bacillus Departures from a scientific line of treatment have been due in the main to a misapprehension of the conditions prevailing in a case of this disease, or in a failure to remember the conditions which should exist in a state of health The following facts have guided him in an attempt to find a scientific line of treatment 1 That typhoid fever is a bacterial disease 2 Typhoid bacilli exist at all times, and in nearly all places, but in varying numbers 3 Under certain conditions the number or activity of these bacilli, or perhaps both factors, may be increased 4 The virulence of the disease depends upon the number or activity, or both, of bacilli invading the individual case A careful consideration of these facts led him to conclude that the treatment of typhoid fever may be reduced to the meeting of three indications, only two of which are always of paramount importance These are the maintenance of the patient's strength by proper nutrition, the removal of the cause, and the reduction of temperature

The determination of what diet is proper in a case of fever is of the utmost importance He has found very few cases that fare well on beef tea or beef extracts, but usually these foods have produced evil results in his hands They are heavily charged with uric acid and uric acid compounds, which tend to reduce the alkalinity of the blood (Haig) This may be the cause of the increased obstinacy of the diarrhea in cases fed on beef tea He condemns the general use of beef tea during the febrile stage of the disease, but it may be given during the defervescence of the fever and in convalescence, with beneficial results in many, if not all, cases It is his custom to give specific directions as to the amount and kind of food The food is always prescribed in liquid form and, unless there is some insuperable objection, milk is the universal diet

The second requirement in the treatment is the removal of the cause The removal demands first that the introduction of bacilli into the system shall be immediately checked This is accomplished by sterilizing all food and drink, and by washing the mouth frequently with a solution of boric acid or some other antiseptic The second requisite toward the removal of the cause is to restore the alimentary canal to its normally aseptic condition

The third element in this phase of the treatment is to aid the system in its battle with the invading bacteria The secretions must be assisted, the tissues strengthened and the cells restored In typhoid fever, even if sufficient nourishment can be given, the enfeebled digestion interferes with its proper preparation and assimilation Two things can be done The food may be partially or completely digested, or the native forces of the body may be stimulated and impaired organs strengthened by drugs Aromatic sulphuric, nitro muriatic or hydrochloric acid may be administered for the purpose of stimulation, and as the heart is the organ most in need of help in this disease, digitalis, strophanthus or caffein may be given and occasionally, if not generally small doses of nux vomica or strychnia may act well to ward off great exhaustion General tonics are especially needed during convalescence The reduction of temperature does not always require special attention, but some cases must be treated with antipyretics or some means of reducing fever He has never used the Brand system He ordinarily reduces the temperature by means of quinin or some coal tar derivative combined with a heart tonic, usually acetanilid and caffein, or tepid, cool or cold water is used for sponge bathing Sometimes he combines these two methods All cases bear the wet sponging, and most are benefited thereby Since he has adopted this line of treatment he has treated seventy cases of the disease These have been of all grades of severity and of various duration The shortest illness was two weeks, two cases, the longest eight weeks, two cases The others varied from three to seven weeks, with an average of four and a half weeks All but one had diarrhea All had tenderness in the right iliac region or near the umbilicus Four suffered severe hemorrhages, all but three were delirious The temperature reached 105 in six cases, 105 75 in one, but usually did not exceed 104 5 degrees F These high temperatures were seldom present more than one day The lowest observed temperature occurring as the maximum in any case was 102 5 degrees All his cases recovered Before he adopted this line of treatment he averaged about 16 per cent of deaths in his typhoid cases He said if he were asked to specify what has caused the reduction of the death rate, and what he believes to be the essential feature of his treatment, he should reply, "abundant nourishment in the form of milk, and the tonics, aromatic sulphuric acid and digitalis" He gives aromatic sulphuric acid and tincture of digitalis combined throughout the entire course of the fever Sometimes he has continued them a week or ten days after the fever has subsided These are given from the first, to prevent the heart failure and general exhaustion so common after this disease The dose varies from five to fifteen drops each every three or four hours, according to the age and condition of the patient and should always be given in water An abundance of fresh air must be furnished typhoid fever patients

Of the first fifty five cases here reported, few were given antipyretics and none the coal tar preparations He gave no salol, sulphocarbolate of zinc, salicylate of bismuth or other antiseptic in his treatment of the first fifty five cases with the exception of aromatic sulphuric acid, and some of the severest forms he has treated are included in that group Other remedies were given only as were required to meet emergencies as they arise

To recapitulate The four most important agents are feeding, sponging, some antiseptic, like aromatic sulphuric acid, and tincture of digitalis or caffein A happy result of this treatment is a more rapid convalescence than is secured when feeding is not crowded, but the course of the disease is not abridged in many cases

---

Mississippi Valley Medical Association

Twenty fourth Annual Meeting, held at Nashville, Tenn, Oct 11-16 1898

(Continued from page 1050)

SECOND DAY—MORNING SESSION

Dr Thomas Charles Martin of Cleveland, Ohio, read a paper entitled

COMPLETE INSPECTION OF THE RECTUM BY MEANS OF NEWER MECHANICAL CONTRIVANCES

The newer mechanical means exhibited consisted of a set of proctoscopes which are provided with obturators of peculiar form, of an illumination apparatus susceptible of adjustment to a number of positions, and of an improvement on the Yale chair, which facilitates the placing of the patient in the knee chest posture without requiring any movement on the part of the patient after he is properly seated on the chair The improvement consists essentially of an upholstered board attached to the left arm of the chair, and a mechanism controlled by a crank and lever, which form a part of the running gear The anoscope exhibited is an inch and a half (1 27 cm) in length, and is designed for the inspection of that part of the rectum which is surrounded by the pelvic floor The proctoscope is four inches (10 16 cm) long, which the essayist claims is of sufficient length to reach into the inflatable rectum, and is not of so great a length as to obstruct a complete view of the rectal chambers, and yet is of sufficient length to reach the promontory of the sacrum when the pelvic floor is displaced upward by the proctologist's manipulations Both these instruments are seven-eighths of an inch (2 22 cm) in diameter, this diameter having been determined upon as the result of calibration in many normal ani The average diameter of the instrument is equal to the degree of painless expansibility of the anus The obturators have contracted necks, which constitute these instruments ointment applicators The middle part of the obturator is channeled, which qualifies the instrument as a nozzle for rectal irrigation, because of its contracted neck the obturator may be used as a self retaining nozzle The surface of each obturator is fluted in such a manner that it may be used as a two way irrigator when properly fixed within its tube The technique of the inspection is as follows The patient is required to sit on the chair with his legs crossed and his body facing the knee board, which is attached to the left arm of the chair The chair back is changed to the horizontal by a movement which puts the patient into the Sims posture The fixed rectum is now examined by means of the short anoscope After this portion of the rectum is inspected, the chair's lever is extended, its crank turned, and the chair tilted to such an extreme degree of the oblique lateral position that the chair seat is almost perpendicular and the knee piece, which is a part of the left arm of the chair and against which the patient's knees are pressing, is almost horizontal Now, at a time when the patient is resting easily in a position which is equivalent to the knee chest posture, the anoscope is introduced, the obturator withdrawn, and the inspection of the ballooned gut completed The patient is passively returned to his feet by executing in the reverse order the several steps of this procedure

Dr John L Jelks of Memphis presented a paper having for its subject, "The Relation between the Genito Urinary Tract and Rectum the Operations Upon the Female Which Should Receive Priority?" The author champions the assertion that the gynecologist should be as well prepared to remove hemorrhoids and treat an ulcerated rectum as to dissect a cicatrix from the cervix or repair a perineum The rectal surgeon often finds that, although the rectum is involved to such an extent as to be chiefly complained of, the chief source of danger to the patient is a pus tube or some other disease In other words, to relieve the patient and restore her to health and happiness, he must also dissect from the cervix uteri a cicatrix and repair a lacerated perineum In another case he may be required to sever a urethral stricture

Dr William B Bruns of Deckerville, Ark, read a paper entitled "Rectal Fistula in the Causation of Ischio Rectal Abscess," in which he reported a case with two large pus pockets He opened the abscess, emptied its cavity, and subsequently did an operation for the removal of the fistula

Dr George D Kahlo of Indianapolis followed with a contribution on

HYDROTHERAPY IN STOMACH DISEASES

He said that water is essential to the performance of all physiologic functions, yet its importance as a remedial agent is not so generally recognized While he does not wish to be understood as opposing entirely the use of drugs in diseases of the stomach, he desires to say that he believes water ranks first among therapeutic resources It may be used internally as a drink, in lavage as a douche, and as a spray, and externally either applied locally or generally Its effects when administered internally depend upon the conditions of the stomach in respect both to taking of food and whether or not there is normal digestion, as also upon the amount and temperature of the water ingested Cold applications of all kinds are antiphlogistic, and when prolonged are sedative They are indicated in acute gastritis and in the control of vomiting and hematemesis but to obtain their full effect it is necessary that their local condition produce an active hyperemia of the skin Hot applications are useful in the treatment of gastralgia, hyperesthesia, gastric ulcer and chronic gastritis While he does not ignore the beneficial influences of such agents as diet, exercise, massage and electricity, not to speak of a few of the more important drugs which are thus used, and in obstinate cases especially, physicians are not likely to rely wholly upon any one remedy, however valuable To be successful, hydrotherapy, like all other forms of treatment, has for its governing factors an exact diagnosis, a thorough knowledge of the patient, a full understanding of the causative influence and a clear conception of the effects of the remedial agent To this must be added the confidence and co-operation of the patient

Second Day—Afternoon Session

Dr Thomas Hunt Stucky of Louisville read a paper on "Auto Intoxication of Intestinal Origin" In referring to the clinical aspects of abscess of the liver, he called attention to the essentials in diagnosis, and dwelt upon the history of the disease He reported three cases Of these the diagnosis was confirmed in two by postmortem, in the other by aspiration In all three the abscesses were chronic when they came under his observation In only one of the cases was there a history of dysentery, although in one case scars of healed ulcers were found in the large intestine In these cases he finds the enlargement of the liver is upward Hoover has made a diagnosis of abscess of the liver from a friction sound in the axillary line between the eighth and tenth ribs The essayist has not heard this sound in any of his cases but this should be borne in mind when making an examination in this region Two of the cases reported were mistaken for malaria This mistake can be avoided by the more general use of blood examinations The absence of plasmodium would settle this at once

Dr J C Morfit of St Louis read a paper on "The Importance of Early Diagnosis in Surgical Cases" The diagnosis of a disease ought to be the most attractive feature in the practice of medicine or surgery It is the foundation on which any plan of treatment is applied The physician should promptly and exhaustively weigh every indication of cause and effect, and apply his therapy accordingly He has recently seen two cases of pyosalpinx which were cured by surgical interference Both had been treated by good practitioners, yet neither had made a complete physical examination, and consequently the real trouble was not detected One was treated for indefinite inflammation of the bowels, the other for malaria He cites these cases to emphasize the duty of the physician to himself and his patients of utilizing every available means to arrive at an early and positive decision as to what he is treating

Dr George W Johnson of Dunning, Ill, presented an excellent essay on

GONANCIECTOMY AND ORCHIDECTOMY FOR HYPERTROPHIED PROSTATE IN THE AGED

In this paper he reported five cases, and made a second report on twenty eight cases previously recorded After referring at length to the literature of the subject and reporting his cases in detail, Dr Johnson arrives at the following conclusions

1 All cases of prostatic hypertrophy should be given at least two weeks of palliative treatment, with rest in bed This treatment should be regulated according to the conditions

2 If no relief is had from this line of treatment, a thorough and systematic examination should be made for vesical calculi and polypi, as well as structural and malignant disease of the prostate and bladder Cystitis, acute prostatitis, and prostatic abscess should always be borne in mind The urine should be frequently examined In cases of cystitis the uterus should be catheterized to determine the condition of the kidneys This can now be easily done by the Harris instrument If by digital examination per rectum the prostate is found to be enlarged, its approximate dimensions should be noted and urethral measurements taken The patient should then be as well prepared as possible for operation Having decided upon operative interference, the operator alone must decide upon what operation he will do Gonangiectomy or orchidectomy offers less risk to life

3 Chloroform should be used, as it requires less time and is not so irritating to the kidneys The operation should consume as little time as possible Gonangiectomy or o
tomy can be done quicker and with less shock than any
operation Strict attention should be given to the
treatment

4 The time for relief after operation is irregular
experience the relief has not been as clearly
hours and days, nor as immediate as in most
In but two cases has the catheter been
tion Enuresis was constantly present
one to six weeks after operation

5 More immediate relief is given to
and the prostate grows softer and diminis
such cases than where gonangiectomy is do

6 The kidneys should be carefully watc
after operation Mental symptoms appe
cases two of which were due to renal di

7 Long standing and troublesome
fully treated in the aged He has su

four such cases, in none of which has a recurrence taken place up to this time Of this number, he has encountered the condition of congenital with acquired hernia in six cases In five of these cases the acquired sac was outside of the congenital one In one case it was within it

8 Bassini's operation was resorted to in all but five cases, and in these Fowler's method was used

9 Cystic degeneration of the testicles was met with in twenty five cases These usually had chronic hydrocele also, and were always cases of hernia of long duration

10 When the intestines occupied the scrotum in large mass, they were returned to the abdominal cavity three or four days before operation In many cases there were adhesions preventing reduction

11 Examinations were always made for vesical calculus, but none found

12 The somatic condition is greatly improved, and when bilateral orchidectomy was done, the patients became obese

13 A thorough line of palliative treatment of from two to six week's duration, with rest in bed, was given each patient

14 In cases of herniotomy, the patient was kept in bed from three to five weeks, unless very asthenic, with the hope of getting better organic union and thereby minimizing liability to recurrence

Third Day—Morning Session

Dr George Ben Johnston of Richmond, Va , delivered the Address on Surgery His subject was "The Progress of Renal Surgery" Renal surgery is altogether a matter of the past three decades, having had its commencement with the successful nephrectomy performed by Simon in 1869 Dr Johnston dealt with nephrectomy, floating and movable kidney, renal and ureteral calculi, neoplasms of the kidney, tuberculosis of the kidney, which when not a part of a general miliary tuberculosis, may have its origin in the kidney, or may be an ascending affection from the bladder Hydronephorosis also received attention He made no attempt to arrive with anything approaching completeness at the progress or present status of surgery of the kidney He endeavored merely to point out some of the advances which have been made in this field of surgery, and to indicate the present views of surgeons upon some of the most important points Especially did he emphasize the conservatism which has developed along that line, and which now marks the attitude of the surgeon, in this as in other branches—a conservatism which realizes that the glory of surgery is not in amputation and in mutilation, but in saving important organs

Dr William R Pryor of New York City presented a paper entitled "Why I Perform Vaginal Ablation in Pelvic Inflammatory Cases" He stated why, when he performs hysterectomy in pus cases, he prefers the vaginal route He dealt with the subject under the respective heads incision, separation of adhesions, direction of effort in the enucleation, hemostasis, drainage, hernia, accidents, instruments, narcosis and time, convalescence and results

Up to October of this year he had performed vaginal hysterectomy for pelvic inflammatory lesions, exclusive of fibroids and cancer, eighty times Since that time he has made the operation a number of times No case has died, either from the operation or from complications He has no fecal fistulæ to report, no sinuses, no vesico vaginal fistulæ, and no hernias There have been no cases of phlebitis and no intestinal obstructions The vagina has in no case been shortened For the technique of the operation he refers to the *American Journal of Obstetrics*, Vol xxxviii, No 6, 1898

Dr Shelby C Carson of Greensboro, Ala , presented "A Consideration of the Limit to Operative Gynecology," the purpose of which was to emphasize the importance of medical gynecology, to show that surgery can not advance a legitimate claim to even the larger portion of this great field A beautiful tribute is paid to this branch of medicine by applying to it the eloquent eulogy of Daniel Webster upon justice Surgery as a science is pronounced as practically without limit, but as an art it has probably reached the summit What constitutes true surgery is then discussed, the author quoting not only from text-books, but from the latest utterances of such men as Wyeth and Annandale, proving that surgery, of all other branches, is based upon principles, and hedged in by fixed laws, that when these are disregarded there is no true surgery The folly of the ablation of the ovaries and tubes in many cases is made manifest The nerve element in woman is closely considered the anatomic connection between the nervous system and the genitalia being defined As a consequence, neurasthenia is a frequent result, for which surgery affords no relief

Dr J Wesley Bovee of Washington, D C , discussed

THE THERAPEUTIC VALUE OF LEAVING LARGE QUNTITIES OF NORMAL SALT SOLUTION IN THE ABDOMEN

He reports six cases to illustrate the usefulness of this procedure In a number of cases the effect was not so marked, and in a few but little benefit was apparent The first case was one of papillomatous broad ligament cyst, fifteen liters normal salt solution left in abdomen, marked increase in urine The second case was one of large multiple uterine fibroma, and large ventral hernia, secondary operation, three liters normal salt solution in abdominal cavity and one liter under breast, with marked urinary increase The third case was one of papillomatous fibro adeno cystoma of right broad ligament, eight liters normal salt solution left in abdomen, considerable urinary increase The fourth case was one of multilocular ovarian cyst, 5000 c c normal salt solution left in abdomen, increased excretion of urine The fifth case was one of multiple fibroma of the uterus and pelvic adhesions, great shock, two liters of normal salt solution left in abdomen, increased urinary excretion The sixth was one of multilocular cartilagino cystoma of left ovary, seven liters normal salt solution left in abdomen, excretion nearly doubled during the following six days

The marked stimulating effect of the remedy on the kidneys is noticeable in all these cases Penrose has found that the average amount of urine excreted during the first twenty four hours after operation in 100 cases was 13 4 ounces, for the second, 14 6 ounces, and for the third, 19 8 ounces He also found that for the first day the maximum amount of urine was 27 ounces In many of the cases of the essayist this maximum was much more than doubled While the number of cases in which he has used these large quantities of normal salt solution is small, the effect should encourage a further application of the remedy in proper cases Not one evil result of the solution was observed in any of the cases

Dr F F Bryan of Georgetown, Ky , read a paper entitled "A Plea for Pelvic Cellulitis and Peritonitis" He reported twenty cases and drew the following conclusions 1, Cellulitis and peritonitis are important manifestations leading to the greatest amount of suffering that woman is heir to, 2, their recognition and the retention of their nomenclature should keep physicians constantly on the watch for them, 3, their proper treatment in the early stages will obviate these latter evils to a great extent, as cellulitis and peritonitis are easily curable in the early acute stages, 4, that, should opportunity for an early cure not be offered, then the chronic cases should have the medical and minor gynecologic treatment mentioned by him, under which many will be cured, others obtain relief and a respectable quota will of necessity have to turn to surgery for their cure

(*To be continued*)

Cincinnati Academy of Medicine

Regular Meeting, October 24

Dr Horace Whitacre presented a patient with chronic tetanus There was no history of injury, nor could physical examination find any source of irritation The principal symptoms were stiffness of the muscles of the neck, especially the sterno cleido mastoids, inability to fully open the jaws, and pain involving the jaws The trouble had lasted about a week There was no fever There was no history of taking medicine for any purpose, so that strychnia poisoning could be safely excluded

Dr C R Holmes presented a patient from whom he had eight days previously removed a piece of steel that had flown from a hammer, penetrated the cornea of the left eye, the iris, the lens, and lodged in the vitreous in the neighborhood of the optic disc He had made an incision about a quarter of an inch long, downward and inward, half of the incision in the lowest part of the cornea the other half in the contiguous part of the sclera, the lips of this incision had been retracted, and the ocular electric magnet plunged into the vitreous The first attempt failed, but on withdrawing the magnet a second time the small piece of iron was found sticking to the magnet He had made the incision a large one so that the foreign body would run no danger of being brushed off in withdrawing the magnet Though the incision was necessarily made through the ciliary region, healing had occurred without the least infection The traumatic cataract formed he intended to remove at some future time In this connection Dr Holmes reported two other cases of foreign body in the vitreous One, in which a piece of copper was the offending body, was removed through a large sclero corneal incision with a pair of mouse toothed forceps, the foreign body kept constantly in sight by the reflected light of the ordinary forehead mirror, the second attempt succeeded in catching the bit of copper and withdrawing it The traumatic cataract formed was subsequently removed, and now the patient has perfect sight, with proper glass The third case was a pin that had penetrated the sclera, all underlying structures of the globe, and finally the sclera posteriorly The head of the pin was seen sticking out from the external wound and was readily withdrawn There were no sequelæ

Dr **Ricketts** reported a case of myoma of the left broad ligament, which had been growing rapidly for a number of years He had used a Langdon rectal tube thrown around the pedicle to stop hemorrhage, and with this as an aid enucleation was comparatively easy and quickly effected The specimen weighed sixty five pounds The primary incision was from the ensiform cartilage to the symphysis As the woman had only been operated on that day it was too early to say as to the ultimate outcome The time of operation was fifty eight minutes

Dr **Henry Bettman** presented a specimen of pachymeningitis hemorrhagica interna, cause unknown There was also found in this patient profuse hemorrhage in the colon He also presented a specimen of fibrinous pericarditis, cor villosum, not on account of the rarity of the specimen, but that a diagnosis had been made of fibrinous pericarditis, lobar pneumonia, and pleurisy with effusion all on the left side and just a few hours before death, all of which points were borne out by the findings of the postmortem table

Dr **John E Greiwe** presented a paper on "The Pathologic Anatomy of Syphilis of the Spinal Cord" Numerous illustrations and microscopic sections added much to the value of the paper

---

Denver and Arapahoe Medical Society

Regular Meeting, Oct 25, 1898

Dr J N **Hall** read a paper on

ACUTE PNEUMONIA

and reported sixty nine cases of acute lobar pneumonia which he has treated in the non mountainous regions of Colorado since 1893 He has excluded from this number all cases of broncho pneumonia, tubercle pneumonia, typhoid and hypostatic pneumonia, and all pneumonias resulting from trauma He tablulated all his cases as follows Males, 42, females, 20, babies, 7, involvement of right lung 41, left lung 25, both lungs 2, one was not noted, involvement of the whole of right lung, 2, whole of left, 3, right lower lobe or lower and middle, 31, left upper lobe, 5, left lower, 17, both lower, 1, all of right and lower lobe of left, 1 Fatal results, 15, or 21 7 per cent Nine died on the sixth or seventh day, five from the third to fifth day, 1 on the ninth day Direct cause of death Probably diphtheria, 1, neglect and exposure, 2, delirium tremens, 1, and exhaustion, notably of the heart, in the others In one case edema of the same lung which set in on the fifth day directly contributed to the fatal termination Two cases were abortive, one in a man of 70, and the other a boy of 7 years, in both cases the disease was cut short on the third day In two families, three cases appeared in succession, and one patient nursed a fatal case of penumonia during the preceding week The janitor of a school, who complained much of the irritating effect of the dust arising from sweeping, suffered two attacks six months apart Another case, a boy of 15 years, who swept a schoolhouse, suffered from an attack In six cases the disease occurred as tubercular patients, but none of them were tubercular pneumonia In one case resolution was delayed for six weeks Three cases known to have been addicted to use of alcohol all died, one of which developed delirium tremens Profuse expectoration of clear blood occurred in one case Of the 69 cases, 9 occurred during the first five years of life, with one death, 8 during the second five years, with 1 death, 8 during the second decade all recovering, 14 during the third decade with 4 deaths 10 in the fourth with 2 deaths 8 in the fifth with 4 deaths, 5 in the sixth with 2 deaths 2 in the seventh with 1 death and 4 in the eighth decade all recovering The highest temperature recorded was 106 4 degrees, in a fatal case, a boy of 2 years, and 105 9 degrees in a boy of 7 years, who recovered One case occurred suddenly and with great severity while the patient was at a ranch, far from help In two cases the sick one was alone and delirium coming on early, he was unable to feed himself or keep up fire One of these, emerging from his delirium on the second morning, crawled to the stable and loosened all the horses, turned on the windmill that they might not suffer for water and crawled back to his hut to await his doom, since it was twenty-three miles to town

In conclusion The known frequency of pneumococcus in the sputum rendered the occurrence of three attacks of pneumonia in two sweepers of schoolhouses of great interest, for one can not but suspect that the dust of the schoolroom must generally contain pathogenic germs The study of these cases offers us reason for thinking that pneumonia is materially different from the disease in any other region between us and the Atlantic

Dr **Whitney**, in discussing Dr Hall's paper, dwelt upon the difficulty of diagnosticating cases of lobar pneumonia in the aged and children, in both of whom the pathognomonic signs of initial chill, rusty sputum and crepitant râle are, as a rule, absent He lays great stress, from a diagnostic standpoint, upon bronchial respiration and dullness occurring in the same lung He fully agrees with Dr Hall that pneumonia is not more fatal in Denver than in any other part of the country He called attention to a statement made by a German physician that he had not lost a single case out of some seventy cases of pneumonia He gives his patients salicylate of sodium from the start, 10 grams every hour for twelve hours, none for the next twelve hours, and then resumes the treatment Dr Whitney expects to apply this treatment in the next favorable case

Dr **Spivak** reported a case of typhoid fever, which showed on the fifth day after admission to the hospital, unmistakable signs of pneumonia He acted upon the suggestion of Dr Whitney, and all the signs had disappeared on the following day He gave, however, only 7 grams of salicylate of sodium every three hours He continued the treatment, 5 grams t i d and the patient made a perfect recovery after a somewhat tedious right phlebitis

Dr **Jayne** said that the somewhat greater mortality in mountainous regions is due to the fact that the patients are either not taken care of, or are subjected to great exposure during transportation to town or hospital

Dr C K **Fleming** read a paper on

THE ABUSE OF THE MECHANICAL TREATMENT OF UTERINE DISEASES

He said "A question that is frequently put by the physician to one engaged in practice of gynecology is 'What is the reason that there seem to be more pelvic diseases in women than formerly?' In reply, I have been obliged to state that I believe that the increase of pelvic diseases is due, in a large measure, to the abuse of the mechanical treatment of uterine diseases" He drew the following conclusions

1 The vaginal speculum is capable, through lack of asepsis, of carrying infection into the vagina and thence to the uterus

2 The uterine sound should have no place in the armamentarium of the general practitioner

The results from intra uterine medication are, to say the least, unsatisfactory, and may be decidedly harmful

4 The rapid dilatation of the cervical canal is the ideal method, but the operation should be performed in the home of the patient or in the hospital

5 The uterine curette should never be used in the office

6 Pessaries are useful only in the treatment of displacements are only palliative, and should not be used unless radical means are refused

Dr **Jayne** accorded with the statements of Dr Fleming, and said that since the gynecologists have become skilfull in bimanual manipulations the use of the sound is superfluous He very seldom uses it, and only in cases where its introduction would be of absolute diagnostic value When sterilization is impossible, he dips the sound in pure carbolic acid and washes off with bichlorid solution He has seen many cases where a pessary produced perfect and permanent reposition of the uterus

Dr **Stover** said that the specialists have so much encroached upon the general practitioner that the tongue depressor will sooner or later be deemed a dangerous instrument except in the hands of an otologist

Dr **Spivak** was in perfect accord with the general statements of Dr Fleming, but thought the introductory remarks of the speaker somewhat misleading as one would be liable to conclude that the increase of pelvic trouble in the female if there is an increase, is due to the slovenly ways of the general practitioner He thinks the general practitioners especially of the last decade, are fully impressed with the theory of asepsis and that they practice what they have been taught He thinks that the syringe nozzle used by women indiscriminately before they ever consult a physician is in many cases a hot bed of infection

PRACTICAL NOTES

Collodium Bandages—These are recommended by Schliep for hernia of the umbilicus, and other hernias in which ether spray proves ineffective A thin pad of cotton three or four inches square, is dipped in the collodium and applied with gentle pressure—*Munich Med Woch*, September 27

Sodium Salicylate in Facial Paralysis—Catrin reports a case of severe facial paralysis following an attack of acute articular rheumatism three months previously, which he cured in twenty-three days with 74 grams of sodium salicylate without electricity or massage—*Semaine Méd*, October 12

Edema of the Eyelids—Dechamp announced at the recent French Congress of Ophthalmology that he had been very successful in curing essential edema of the eyelids with Lannelongue's injection of 1 to 20 zinc chlorid, once a week for six to eight weeks

Puncture of the Colon in Typhoid Fever—The *Semaine Méd* of October 12 reports the favorable result of puncturing the transverse colon in a case of typhoid fever It was so enormously distended that it had displaced the heart and threatened immediate cardiac collapse The introduction of a small trocar allowed the escape of the gases, and all the threatening symptoms subsided at once

New Collateral Route—The creation of a new collateral route for the blood of the portal vein in cases of cirrhosis of the liver has been successfully accomplished by S Talma, who sutured the large omentum and gall bladder to the abdominal wall, and latter the dilated spleen in one case, a boy of 9 years Two years have since passed, and the normal coloration of feces and urine and the absence of icterus show that the liver is performing its function well, although it is and always will be much indurated The lad seems perfectly healthy—*Semaine Méd*, September 28

Local Anesthesia from Blood Expulsion—S Kofmann writes to the *Cbl f Chir* of October 8 that he was at first much pleased with the success of Obert's improved local anesthesia (JOURNAL xxx, page 736), but discovered later, to his surprise, that the anesthesia was complete without the cocain Driving out the blood had alone accomplished the result He describes several operations on the foot and lower arm, including an osteomyelitis of the fibula, during which the patient experienced no pain except from the tightness of the ligature After the ligature is applied a certain interval must elapse, as with the Oberst method, before the anesthesia becomes complete

Curettement in Pharyngeal Catarrh—A Malherbe describes in the *Rev de Laryng* October 1, his complete success in curing seven cases of chronic posterior pharyngeal catarrh by curetting the nasopharynx, in ethyl bromid anesthesia, the patient lying on a table with his shoulders at the edge and the head hanging in forced extension The infected masses drop into the mouth or nasal passages, whence they are removed with hot boricated irrigation Quite an effort is required to dislodge the hard masses sometimes encountered He applies, a week later, a tampon of cotton moistened with iodin 1 gram, potassium iodid 3 grams, aq dest 40 grams With this exception he abstains from douches, sprays and other local applications All his cases have been permanently cured (eight to nine months), and the voice has returned to normal

Treatment of Varices—Excision of the veins and the ablation of a large cutaneous flap in the leg, has been found very satisfactory in treatment of varices by E Schwartz, who has performed the operation on fifteen patients, all permanently cured, the wound healing by primary union The elasticity of the skin is such that it can be sutured together after the removal of the spindle shaped flap extending the entire length of the inner side of the leg, 5 to 6 cm wide at the widest part, and it will stretch to form a natural elastic stocking sure to hold the veins of the leg firmly in place If there is an ulcer the flap should include it The patient is kept in bed three weeks, the leg raised on a cushion His patients have all resumed difficult occupations, as washerwomen, carpenters, etc, and the ultimate results have been perfect—*Presse Méd*, September 7

The Physiologic Dressing—Augé and Casteret have been testing sodium bicarbonate, recommended by the Russians, and find it fully as effective as antiseptics in dressing suppurating wounds, and in many cases more so It promotes epidermization much more rapidly suppresses pain and inflammation in from twenty four to forty eight hours, dries up the suppuration rapidly, favors the secretions by cleansing the pores, while increasing phagocytosis and restoring the alkalinity to the blood This latter they consider so vital that they assert that the resistance of the organism to infections is proportionate to the alkalinity of the blood, and that the effect of artificial serum is due to this cause They have tested the bicarbonate on a number of suppurating gangrenous wounds, panaris, phlegmonous abscesses and dermatoses, and they conclude their very favorable report with the remark that the still unattained ideal dressing would be one which killed the microbes like the antiseptics—which the bicarbonate does not—while still respecting the integrity of the cells—*Presse Méd*, September 18

Ocular Affections of Utero Ovarian Origin—In ocular affections connected with utero ovarian trouble—which are more frequent than usually supposed—Professor Mooren relieves the tenacious hyperesthesia of the retina with the following Potassium bromid 4 grams, lupulin 6 5 grams, pulv rhubarb 1 5 grams, extract of centaurea, q s Make into 120 pills Take three pills three times a day If the ovary is the cause of the ocular troubles he gives Atropin sulphate 3 centigrams licorice powder 2 5 grams, extact of licorice q s Make sixty pills Take three pills a day If the reflex ocular irritation depends upon some simple functional disturbance in the uterus or ovaries he administers Paracelsus' elixir in the dose of two half teaspoonfuls a day for several weeks, in the case of robust patients, otherwise reducing this amount to a quarter teaspoonful, or merely several drops during the few days preceding the menses A copious metrorrhagia may induce a serous effusion in the retina, or a neuro retinitis, which are relieved by cold compresss or ice to the back of the neck, with leeches to the mastoid epiphyses and saline purgatives, if necessary Local treatment to remove the cause in all cases—*Semaine Méd*, September 28

Modern Treatment of an Infection—Professor Grasset observes that this treatment is based upon the principle that we can not attack the microbe directly, but must direct all our energies to stimulate and augment the spontaneous resistance of the organism He rejects serum treatment, except for diphtheria, also antiseptic, "as internal antisepsis is extremely difficult to realize and can only be exceptionally accomplished, and also antithermics, as they are useless and even dangerous in the treatment of infective diseases, except in certain rare and well defined cases His treatment is therefore restricted to 1 The régime, stimulating, tonic 2 Blood letting, white and red, that is, venesection and diuretics, sudorifics and purgatives 3 Water in every form and at all temperatures, baths, lotions, injections, drinks, etc Water acts as a stimulant and diuretic The cold bath benefits less by the effect on the temperature than by facilitating the elimination and oxidation of the toxins, stimulating the organism and soothing the nervous symptoms 4 Injections of salt solution, or artificial serum, which have a three fold therapeutic effect They stimulate and remove the arterial hypotension and protect against anemia, while they also help to eliminate the toxins and at the same time produce unmistakable reactional phenomena—*Progrès Méd*, September 24

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE, INCLUDING POSTAGE

Per Annum, in Advance	$5 00
Foreign Postage	2 00
Single Copies	10 Cents

In requesting change of address, give old as well as new location.

Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
No. 61 Market Street (Occidental Bldgs.), Chicago, Illinois.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

This is obtainable at any time by a member of any State or local Medical Society which is entitled to send delegates to the Association. All that is necessary is for the applicant to write to the Treasurer of the Association, Dr. Henry P. Newman, 100 Washington St., Chicago, Ill., sending him a certificate or statement that the applicant is in good standing in his own Society, signed by the President and Secretary of said Society. Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership.

On receipt of the subscription the weekly JOURNAL of the Association will be forwarded regularly.

Gentlemen already members of the Association should send their annual subscription to the Treasurer, or direct to the JOURNAL office.

All communications and manuscript of whatever character, intended for publication in the JOURNAL, should be addressed to the *Editor*, and all communications relative to the business of the JOURNAL, proof sheet returned, or in regard to subscriptions should be addressed to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 61 Market Street (Occidental Buildings), Chicago.

Original communications are only received with the understanding that they are exclusively contributed to this JOURNAL.

SATURDAY, NOVEMBER 5, 1898.

THE MICROBE OF CONTAGIOUS PLEURO-PNEUMONIA.

The essential lesion of contagious pleuro-pneumonia of cattle (a péripneumonie of the French) consists in the distention of the interlobular connective tissue spaces by a large quantity of inflammatory exudate. If a drop of this serum is inoculated into the subcutaneous tissue there will appear, after from nine to twenty-five days, an inflammatory engorgement of varying dimensions, which is often followed by death. At the autopsy there is found a large quantity of yellowish serum in the tissue spaces, which is here and there coagulated into gelatinous masses. The exudation sometimes amounts to several liters. Animals that recover after a slight sickness of a few days become refractory to experimental inoculation as well as to natural contagion.

This fluid, so virulent for animals of the bovine species, is without action upon other species. These facts were, according to NOCARD and ROUX,[1] demonstrated by WILLEMS in 1850.

The demonstration of the specific microbe of pleuro-pneumonia, its isolation and cultivation, would constitute a very desirable progress. Heretofore all attempts, in innumerable ways, in that direction have failed.

The introduction of collodion sacs for the purpose of cultivating microbes in the living body, such as was practiced by METCHNIKOFF, ROUX and SALEMBENI, in their study of the toxin and antitoxin of cholera, appears to have been a very happy idea. The wall of collodion constitutes a perfect barrier to the microbes, as well as to the cells. The microbes may multiply in the interior of the sac, because they are protected from the phagocytes. On the other hand, this wall is permeable to fluids and substances dissolved in them, forming a perfect osmotic membrane. In this way poisonous substances produced by the bacteria pass outward, so that the microbic auto-intoxication does not take place, and, finally, the substances in the serum of the animal used may enter the sac.

NOCARD and ROUX employed such sacs in the study of the microbe of pleuro-pneumonia, inoculating the bouillon which they contained with a trace of the serum of pleuro-pneumonia and then inserting the sacs into the peritoneal cavity of rabbits. In from fifteen to twenty days the sacs were found to contain an opalescent fluid, slightly albuminous, which contained, neither cells nor microbes that would grow on the ordinary media. With a magnification of 2000 diameters and a very strong light, a great quantity of very small mobile points were seen, of such minuteness that it was difficult to say, even after staining, what their exact form could be. No such bodies occurred in the fluid of a sac of collodion, inserted in the same manner without having been inoculated with the pleuro-pneumonic exudate. Sub-cultures of the fluid of the first sac gave exactly similar results. Incubating rabbits, which become emaciated, may die before the day fixed for the autopsy. The blood of the organs of such rabbits failed to give any growths of bacteria after inoculation upon various media and even into collodion sacs. Death resulted—in all probability an intoxication due to outward diffusion of the products of the microbe. Here is a new example of an animal being very susceptible to the toxins of a microbe to which it is insusceptible.

Collodion sacs, inoculated in the same way as described and inserted into the peritoneum of guinea-pigs, did not give any growths. Hence, it may be concluded that it concerned a special micro-organism, which multiplied in successive cultures in the medium produced by osmotic changes in the interior of the fluid in the collodion sac inserted into the rabbit's peritoneal cavity. This micro-organism was found by successive inoculations into cattle to be the virulent agent of pleuro-pneumonia.

Subsequently it was found possible to cultivate this microbe outside the abdomen of the rabbit by inoculating sterilized bouillon which had been allowed to remain in the peritoneal cavity of a cow or of a rabbit in collodion sacs for several weeks. Then the bouillon acquired the properties necessary for the growth of the pleuro-pneumonic microbe in the test-tube, further experiments showed that the addition of four drops of the serum of the rabbit or of the cow to 5 c.c. of a solution of peptone[2] rendered this also a suitable culture-medium, so that it is now possible to cultivate the microbe of pleuro-pneumonia in the ordinary way It will now be possible to study its toxin and make attempts to modify its virulence

---

[1] Le microbe de la péripneumonie. Annales de l'Institut Pasteur, xii, 1898, p. 240.

[2] As recommended by Martin. Annales de l'Institut Pasteur, 12, January, 1898.

These extremely interesting observations point the way in which it may be possible to study certain other diseases, the specific microbe of which have not yet been isolated It is very interesting also to note that Nocard and Roux have brought into prominence a micro-organism of such minuteness that the ultimate limits of our present means of magnification have practically been reached Really the final criterion of the presence and multiplication of a micro-organism in the cultures described is furnished by inoculations

TYPHOID WITH PROMINENT RENAL SYMPTOMS

While typhoid fever presents many distinct types, as afebrile, ambulatory, abortive, hemorrhagic, and qualifying adjectives of this kind are a positive aid to the student, attempts at such classification as pneumo typhoid, nephrotyphoid, and names of like character, can not but make the subject extremely intricate, even when they are manifestly designed to indicate the organ or system upon which the brunt of the attack is falling It were better then to speak, not of nephrotyphoid, but of typhoid with prominent renal symptoms This variety is not uncommon, as a review of many recent reports of typhoid will show The renal complications may occur at the height of the disease, when no particular trouble in diagnosis occurs, or nephritis may occur as a sequela Occasionally, as in a case reported by Wilson, a primary attack apparently involves the kidneys only, an acute nephritis of typhoid origin, if we may so use the term, the intestinal symptoms being completely masked by those of the urinary Usually, in this class of cases, a relapse occurs, in which the abdominal typhoidal symptoms become in their turn prominent, the kidneys, strangely enough, suffering but little Even when a relapse does not occur, the Widal test will remain the deciding factor, and it might be stated here that in every case of acute nephritis, the agglutination reaction should be carefully employed for the following reasons While, as a rule, the diets of nephritic and typhoid patients are the same, yet it must be admitted that many good practitioners allow their nephritic patients fruits and even occasionally a little solid food When it comes to the question of drugs it can be readily seen that a positive diagnosis is of the utmost importance, for while on the one hand, in nephritic cases, calomel and the saline cathartics are unquestionably indicated, on the other, in typhoid, such remedies would in many instances work great harm, causing perhaps a perforation of the bowel, severe hemorrhage, or both As regards the care of the excreta a point of considerable practical interest is presented When the diagnosis of typhoid nephritis is made, the urine and feces are promptly subjected to the action of disinfectants as in all typhoid cases, but suppose the diagnosis to be made merely of acute nephritis with the typhoid origin undiscovered, naturally, in such a case, no efforts at disinfection are made and one might readily imagine another Plymouth, Pa, experience

The symptoms of an ordinary acute nephritis may greatly resemble a typhoid at the onset The onset of nephritis may be gradual (though usually sudden) and accompanied by severe headache, pain in the back and limbs, nausea and vomiting, a slight fever, pallor of the skin, and perhaps a slight edema of the eyelids, the only distinctive feature being the urinary changes, diminution of the amount of urine even to total suppression, high specific gravity, presence of large amounts of albumin, and microscopically, casts, epithelial and blood If it were not for the Widal test it might be totally impossible to diagnose a co-existing typhoid until perhaps the rose colored eruption, blood in the stools or the symptoms of possible perforation suddenly opened our eyes Yet another difficulty presents itself In the early stages of typhoid, the agglutination reaction is not in evidence, often appearing only after the characteristic temperature curve, the eruption, and other abdominal symptoms have practically settled the diagnosis It behooves us then to always bear in mind that in all cases of typhoid infection, a negative result to the serum test in the early stages of the disease will not warrant us in concluding that the reaction will not occur later on or that the disease under consideration is not typhoid The practical point in all this is that in all cases of nephritis it must always be remembered that no matter how apparently clear the etiologic factors may be, there is always a danger of coincident typhoid, and we should be on our guard not only not to institute treatment which would be deleterious to a possible enteric fever, but to also adopt measures tending to the prevention of the spread of the disease

MALARIAL AFFECTIONS OF THE EYE

It seems strange when one considers the vast amount of space given to rare ophthalmoscopic affections in the various text-books on the eye that but little or no room is allotted to the effects of the plasmodium malariæ on this most important structure Possibly this is on account of a natural hesitancy to report or describe, as malarial, eye affections in which no blood examination has been made, possibly it is because the observers have not looked upon the malaria as the exciting cause Among the external eye diseases depending upon the malarial parasite, probably a serpiginous ulcer of the cornea is the most common Phlyctenular keratitis also occurs, and occasionally a herpetic eruption involving the upper lid and supra orbital region, indeed the two latter conditions may co exist These affections have all occurred in the experience of the writer and, in all of them, an examination of the fresh blood revealed the presence of the plasmodium.

YARR, in the *British Medical Journal* of September 24, in his article on "Malarial Affections of the Eye," states that tropical practitioners are continually on the watch for ocular manifestations which experience has taught them are characteristic of malaria, cases "with characteristic symptoms, characteristic ophthalmoscopic symptoms, and above all characteristic pathology." He thinks that all ocular troubles the result of malarial infection have their starting-point in disturbances of circulation, and classifies them under the heads of neuritis, hemorrhage into the retina, retino-choroiditis, and effusions into the vitreous. YARR has given a most complete record of neuritic symptoms, symptoms that will readily distinguish the malarial neuritis from all other forms, and includes the following. The sufferer as a rule has had several attacks of paludism previous to the onset of the present symptoms. At the beginning of his ocular trouble complaint is made of supra-orbital neuralgia and great aversion to light, night blindness is also present. Perception for colors is not reduced unless complete atrophy supervenes. One of the most characteristic symptoms, according to YARR, is the great diminution of visual acuity, its sudden increase on the ingestion of quinin, and a perhaps subsequent fall even under the influence of that drug. The ophthalmoscopic examination reveals "swelling of the papilla, which assumes a greyish red color, edema of the circumpapillary retina, with effacement of the papillary margins, and enlarged and tortuous veins." In over 30 per cent. of the cases, he describes small retinal hemorrhages confined for the most part to the periphera. One symptom, due to the presence of the plasmodia within the capillaries, "peculiar coloration of the papilla, *tiente rouge-grisâtre*," is said to be pathognomonic. In conclusion it is stated: "about 80 per cent. of cases terminate in a partial atrophy, indicated by varying diminution of visual acuity, irregular contraction of the field, and slight greyishness of the disc, many end in apparently complete recovery, some rare cases go on to complete atrophy." The affection is usually binocular. Under retinal hemorrhage two chief varieties are described, the small peripheral and the large peripapillary, in which the former are by far the more common, indeed YARR suggests that probably many of the slight interferences of sight that occur in ague are due to these minute punctiform hemorrhages associated with edematous retinæ. The large hemorrhages are most liable to be present in those afflicted with pernicious fever, in the stage of so called malarial cachexia, and may be so large as to result in immediate and total abolition of sight. In about one-fifth of all the intermittent fevers, there develops an edema of the retinal structures which as a rule promptly subsides and ultimately completely disappears with the cessation of the disease. Occasionally, however, the process continues, involves the deeper ocular tunic, and the inevitable contraction of the new-formed connective tissue brings about an atrophic condition of retina, choroid and disc. Under effusions into the vitreous, YARR mentions a condition in which a peculiar whitish reflex is observed when the reflected light is used. This, it is thought, is due to serous infiltration into the vitreous, superinduced by paludism, in one case reported it certainly responded to the administration of quinin. Among the occasional ocular diseases due to malarial poisoning may be mentioned periodic blue vision, central scotoma, sudden and persistent amaurosis, and amaurosis ending in atrophy. In conclusion YARR warns the oculist to always bear in mind that amaurosis may be caused by the quinin which the patient is taking, a blindness of several days even being due occasionally to this cause.

THE COMPULSORY NOTIFICATION OF VENEREAL DISEASES

It may be stated as a general hygienic principle, that is, one in regard to which medical authorities are generally agreed, that compulsory notification of infectious diseases is an indispensable adjunct to the medical defense of the public from their ravages. The public itself, with its dread of these maladies, far greater than that felt by the physician himself, falls in readily with the idea, and endures and imposes inconveniences none the less serious because they are voluntarily assumed. This is true as regards some disorders at the present time that were not long since hardly reckoned as seriously infectious, and which were consequently allowed to propagate themselves freely, in many communities at least. It is probable, or at least possible, that the number of disorders that will be held as reportable is by no means complete, and that with our increasing knowledge of germs and their action in producing disease, we will come to consider it necessary perhaps to demand isolation and full sanitary precautions in many disorders now considered harmless as regards contagion or infection. The medical and lay public are both passing through an educational stage in this regard, and the tendencies of the former, or a large and influential part of it, are decidedly on the advance in this respect at the present time.

A recent item of news from Germany stated in effect that an ordinance had been passed requiring physicians to report as infectious diseases all cases of venereal disease, when such could be done in their opinion without detriment to important interests. The leaving of the matter thus to private judgment must practically emasculate the law, but that does not affect the fact of the recognition of the principle that these affections ought in the interest of the public health to be reported. It is, when sta [illegible] ld little odd that disorders, one of which is not only directly contagious by personal contact, but may also be communicated by intermediaries, clothing, drinking-vessels, etc., as well as transmitted to offspring, and that has as its consequence some of the most serious disorders to which mankind is liable, and another that, according to the latest view, is responsible for a very large proportion of the special disorders of the female sex, should not only be not subject to compulsory notification, but should, of all others, be most strictly protected by law. If violations of medical confidence are likely to be anywhere followed by exemplary legal punishment, it is in just these cases, where the peril to the community and to individuals is overlooked as compared with the effects of revelations of what are assumed to be disreputable facts. The result is innumerable innocent victims by marriage and otherwise, and if we are to accept the estimates of some specialists as to the prevalence of gonorrhea in the male population of our cities, and consider them in connection with the views of modern gynecologists as to the evil effects of this disease, conjugally acquired, upon female health, the risks an innocent girl runs in marriage seem formidable enough to warrant almost any legal restrictions to meet the evil. The laws that only compel one quasi-criminal class of female unfortunates to submit to legal regulations, while possibly of some utility in military garrisons, have not proved their efficiency in the defense of the general public, and their success in any case is disputed and disputable.

Whether a law requiring compulsory notification would be practicable for all these cases is perhaps open to question, that it would be evaded to a considerable extent may be assumed as certain. The liability to heavy penalties and damages for non-reporting would probably strengthen the law and make it more effective. The record might even be only a temporary one, the physicians' reports being filed alphabetically and destroyed after a certificate of recovery. In any case they could be kept as it were confidential, and reference to them allowed only under pledges of secresy and for thoroughly valid reasons. Under such conditions compulsory notification of venereal diseases might be to a certain extent a public protection, at least a partial safeguard against infection of the innocent. How far the German regulation will be effective is another question, and a rather more dubious one.

At the present time our health boards require notification of only a few acute infectious diseases, but there are chronic ones equally infectious and hardly less deserving inclusion in such a list. It is true that as a rule they are less immediately dangerous to human life, but they are many of them more repulsive and ultimately as fatal. Leprosy is one of these about which there is no question whatever, the need of its isolation is clear, and yet there are lepers going about in our large cities, pursuing ordinary avocations and constantly coming into contact with others who may receive their contagion. The danger from this disorder, however, is infinitesimal in comparison to that from the multitudes who carry about with them the infection of syphilis, which is innocently acquired, it is safe to say, a hundred times more frequently than is that of leprosy, and which has in it possibilities of evil hardly less than those of the other more dreaded disorder. It is a matter certainly of interest that the principle of its sanitary control by legal notification has been recognized as well as that of the hardly less formidable gonorrhea, and the further development of the idea will be worth observing. As physicians we can not be indifferent to a measure which, whether fully practicable or not, is yet an effort in the right direction. The compulsory notification of these diseases, if it can be practically carried out and thoroughly enforced, ought to be as a sanitary measure free from the objections to the older registration laws that apply to only a limited portion of one sex, while it should be a still more efficient aid to public sanitation and incidentally also to better morals.

WHY SHOULD WE ESTIMATE FOR UREA?

We have been taught that the excretion of uric acid to urea stands in the relation of 1 to 33. Haig states: "My researches have extended over a large part of the last twelve years, but taking only the figures of the longer periods of my estimation of my own excretion, we get a total of 2351 days, in which 28,447 gr. of uric acid, 805,432 gr. of urea and 127,725 of acid (reckoned as oxalic acid) were excreted, giving a relation of uric acid to urea of about 1 to 28, and a relation of acid to urea of 1 to 6.3."

If we desire to estimate the amount of uric acid in a given sample of urine, and turn to the process first devised by Hopkins, we might be astounded at the lengthened process necessary to obtain the amount of such a common ingredient as uric acid. Indeed, the quantitative estimation is hardly ever resorted to at the present day on account of its tediousness and certain errors which might ensue from the expertness required in making the estimation. The simple quantitative method of precipitating the uric acid by acidulating the urine with hydrochloric acid and collecting on an equipoised filter is also open to serious and fallacious results. Therefore, it saves time and trouble to say that the daily excretion of uric acid to urea stands in the relation of 1 to 33 and, after estimating the amount of urea, it is an easy matter to compute the amount of uric acid excreted daily in a given quantity of urine.

The specific gravity method is also simple in estimating the amount of urea. For instance, a method is given which states that "A given specimen of urine, neither albuminous nor saccharin, containing a normal proportion of chlorids, and having a specific gravity of 1020–4 is a quantity of 1500 c.c. (50 oz.) in twenty-four hours, may be taken as a standard normal specimen containing 2 to 2.5 per cent. of urea. These conditions being observed, a higher specific gravity would indicate an increased proportion, and a lower a diminished proportion. Under these circumstances, a specific gravity of 1014 indicates about 1 per cent. of urea and of 1028 to 1030 about 3 per cent." Here again there is room for unbounded fallacy.

But what of the more accurate methods for the estimation of urea, as now taught by the foremost medical colleges? **Davy**'s method, which depends upon the decomposition of urea by means of sodium hypochlorite, has certain objections, because it is stated that NaClO in the presence of caustic alkalies causes the evolution of only one half of the nitrogen of urea, the remainder being retained as a cyanate. With the **Kjeldahl** method the writer has had no experience. The method, however, which seems to be the favorite is that known as the "hypobromite," and depends upon the decomposition of the urea in the urine by means of sodium hypobromite (NaBrO), with the production of sodium bromid (NaBr), water, carbon dioxid (CO_2) and the evolution of nitrogen. After correcting for temperature and barometric pressure, the nitrogen in the hypobromite method can probably be most accurately estimated. Suppose that we have before us a given specimen of urine and we desire to find the amount of urea by the hypobromite method and, after completing the examination in detail, we find the amount of urea present in this given specimen. It is true, we have at last obtained the correct data in regard to the amount of urea in the urine, but it is also true that we have not determined the amount of metabolic activity nor the amount of animal food eaten the day before by the patient, and upon these factors depends the average normal amount of urea in the urine. Therefore it is hard to devise a *standard* normal amount of urea, because it varies with katabolism and with the amount of animal food giving a great amount of urea, and vice versa.

What is the normal amount of urea excreted by man? **Musser** states that the average daily amount of urea excreted by an adult in the twenty-four hours is about 500 grains. According to **von Jaksch** it is from 496 to 620 grains. **Purdy** places it at 512.4 grains, **Neubauer** and **Vogel** from 387 to 620 grains, **Tyson** from 310 to 620 grains. **Simon** states the case very explicitly when he says: "The amount of urea is well illustrated by comparing the condition of the poorly nourished North German laboring population with that of the well fed merchants, the excretion of urea in the former amounting only to from 271 to 519 grains of urea and in the latter to 465 or 620 grains." A careful review of this subject therefore discloses the fact that the average daily amount of urea excreted by man varies from 271 grains (**Simon**) to 630 grains—the maximum amount designated by other writers. Since the normal amount of urea in the urine depends upon katabolic activity and upon the amount of nitrogenous food ingested, and since this normal amount is so variable, we may well ask of what real benefit is the estimation of urea in the urine?

◆

THE ARMY MEDICAL DEPARTMENT OF MANILA.

Reports recently received at the Surgeon-General's office from Manila, Philippine Islands, from Lieut.-Colonel **Henry Lippincott**, chief surgeon, Department of the Pacific, give a view of the condition of medical affairs at this far away military station. As yet the men of this command have undergone none of the fatal experiences of the troops in the home camps. Typhoid fever existed in Camps Merriam and Merritt, San Francisco, Cal., which they occupied prior to their embarkation, but the infected men were left behind in the field hospital at the Presidio. The troops were necessarily closely packed on shipboard during the long voyage, but they had distilled water to drink and, instead of the sinks which spread the infection in our insanitary camps, they had latrines flushed by a constant stream of sea water. The disease was thus held in abeyance, but we may expect to hear in progress of time of the development and spread of typhoid fever among them unless medical and military officers profit by our experiences in this quarter of the globe and take especial care of the sanitation of their barracks and quarters. It is interesting to remark that the landing of supplies from the transports through the surf at Cavité and Camp Dewey was as difficult and dangerous as the landing at Daiquiri and Siboney, and that heavy rains fell constantly during active operations in the Philippines as in Cuba, yet although the troops, at the date of Colonel **Lippincott**'s dispatches, had been ashore at Manila for as long a period as the Fifth Corps stayed in the vicinity of Santiago, and had been subjected to some hard field service in their attack upon the Spanish lines, there had been no such breakdown of the health of the men as occurred in General **Shafter**'s command. This alone demonstrates that there were were climatic conditions and local infections in the one case that were not present in the other, and goes far to answer the question which has been put so often recently: Who is responsible?

The number of deaths from disease and accidents since the first fleet sailed from San Francisco (May 25) has been only 29, with 14 of which typhoid fever is credited. The other items in the bill of mortality are: Pneumonia 3, dysentery 2, meningitis 3, and 1 each from septicemia, paralysis, cardiac rheumatism, endocarditis, appendicitis, insolation and morphin poisoning (suicide). This for over three months in a command of 18,000 men is eq[illegible] an [illegible] rate of only 6 44 per 1000, which would be considered an excellent record for troops well cared for in good barracks in times of peace

The lists of battle casualties show that 11 men were killed and 12 officers and 104 men wounded, 1 officer and 7 men dying from the effects of their wounds In the attack on Manila, August 13, the field hospitals were not moved forward, as Camp Dewey was only four and a half miles from the scene of action All the wounded were dressed and comfortably in bed by 7 P M of the day of the attack No amputation was considered necessary, although there were some severe wounds complicated with fracture of the limbs The field hospitals were removed from Camp Dewey, August 17, to the Spanish military hospital in Manila This hospital is in fair repair and has room for 400 patients Prior to placing our people in the wards the woodwork was cleaned and thoroughly disinfected It is probable that some of the sick at Cavite will be transported to this establishment

During the voyage to Manila Colonel LIPPINCOTT prepared a circular for the guidance of medical officers and typewritten copies bearing the approval of the commanding general, were issued before the attack The instructions thus conveyed proved of great value at a time when the conitions are said to have been most trying It is officially reported that the Surgeon-General may well be proud of the field and hospital work of the volunteer medical officers

The health of the command is stated to be fairly ood, although the sick list is larger than it would be re the troops better situated in a sanitary way They are all quartered in buildings, some are well housed, others are not There is a great tendency to stomachic and intestinal troubles referred to the difficulty in restraining the men from eating and drinking unwholesome articles Dysentery is common and malarial fevers are of frequent occurrence

CORRESPONDENCE

Judge Kohlsaat and the Probate Court

CHICAGO, Oct 31, 1898

To the Editor —Some of the statements which have appeared in the medical press of late criticising the official acts of Judge Kohlsaat appear very strange to the thousands of citizens of Chicago who have known him, as has the writer, for twenty years or more His reputation as lawyer and judge is so very different from that sought to be given him by the critics, that the thought at once arises that there must be a mistake somewhere If it were a fact that Judge Kohlsaat habitually, or even occasionally, ruled differently in regard to physicians from his rulings with others, that fact alone would show his unfitness for the bench, and not only physicians but others should unite to secure his defeat The writer, having waited in vain for some one to make reply to these criticisms, and thinking it due to the profession that they should be informed if these things are so, has undertaken a somewhat hurried investigation on his own account and desires to publish his results and conclusions And believing it but just that Judge Kohlsaat should have the opportunity to be heard in his own behalf, the writer addressed a note to him in which he asked him if it were a fact that he as a judge ruled that he "would not in any case allow more than one bill for medical services to be collected against an estate in his court," and that he would not allow more than $2 per visit to a physician under any circumstances" Judge Kohlsaat's reply is certainly sufficiently explicit on these points After stating that these criticisms had been called to his attention, but that he had not thought them worthy of notice, he says "I answer the statements you quote categorically" "I have not stated, nor have I held that I would not allow more than one physician's bill against an estate" "The claim is too ridiculous for consideration" "The records of the court utterly refute the charge" "I suppose I did refuse some doctor's bill in some particular case, owing to the circumstances of that case, but I do not recall any one such case" "No such general line of action has ever suggested itself to me" "As to the other matter, i e, that I will not allow to exceed $2 per visit, I can only appeal to the record, in which the statement is contradicted a hundred times" "Both of these allegations are the malignant offspring of some disgruntled claimant who makes no allowance for the particular facts in the case as they appeared to the court at the time, or the harassing and oppressing duties of the probate court in this county" "Any one acquainted with the working of the court here will know that the constant and imperative effort of the court is necessary in order to make the administration expenses as small as possible To do this in the great volume of business, requires almost infinite patience and diligence Lawyers, doctors, administrators, executors guardians and undertakers have often taken exception to what seemed just to the court Certainly any one of these classes has just as much reason to complain as have the physicians"

It so happened that Dr M P Hatfield of this city was the first one to whom the writer spoke about this matter, and he at once said that in one case coming under his personal knowledge, a case in which he had been called to give testimony as to the value of medical services, $3 per visit had been allowed by Judge Kohlsaat

Personal examination of the docket of the probate court shows incontrovertibly that Judge Kohlsaat's statements are correct Running through the records of November, 1897, far enough back to be of unmistakable value, we find, as can any one who chooses to make the examination, numerous cases where more than one physician was allowed to collect from the same estate, and where more than $2 per visit was allowed A few instances only will be quoted Both Dr W K Harrison and Dr E J George were allowed their bills for services against the same estate, the former being allowed his charge of $2 per visit in all cases but one, in which a charge of $3 was allowed Drs St John, Loring, Warren and Butler were allowed bills aggregating five hundred and fifty-odd dollars against the estate of Peter Ross, two of the charges being consultations at $25 each One of these bills was reduced from the claim as presented, but the aggregate allowed was as stated above Dr A V Hutchinson was allowed $2, $3 and $4 a visit Dr P H Matthei was allowed $3 per visit, and Dr J S Mitchell $3 per visit and $2 for office consultation These examples could apparently be multiplied indefinitely were not this sufficient

The writer has no particular concern that Judge Kohlsaat should be re elected, and would not object to any fair and honest means brought to bear to prevent his re election, but he does resent that any one should attempt under false pretenses to use the intelligent medical profession to further a personal grudge or to pull political chestnuts out of the fire

Respectfully,

HORACE M STARKEY, M D

Judge Kohlsaat Defended

CHICAGO, Oct 31, 1898

To the Editor —Your issue of Oct 8, 1898, contains a letter from Dr D H Galloway in which it is made to appear that Judge Kohlsaat refuses to allow 1, more than one physician's bill against an estate, and 2, more than two dollars per visit, no matter what the service may have been

Here are a few facts found in the records of the Probate Court, available to the whole world and ready to the hand of the most casual inquirer

Estate of Sarah A Toohy Docket 43, p 274 Claims allowed Nov 22, 1897 Dr D R Brower $153 Dr Jas H Etheridge $200

Estate of Daniel Butters Docket 42, p 230 Claims allowed May 25, 1897 Dr Frank Billings $100 Dr R D MacArthur $354 Dr Jos M Patton $150

Estate of Jos T Torrence Docket 43, p 151 Claims allowed Dec 31, 1896 Dr John H Chew $25 Dr A H Cooke $25 Dr Frank Billings $50 Dr R R Campbell $325 Dr R D MacArthur $2,385

The humor of Dr Galloway's letter lies in the fact that there are hundreds of similar illustrations to be had by merely opening a book

As to the "two dollar a visit" statement consider the following

Estate of Isabella L Dunning Docket 48, p 148 Oct 24, 1898 Allowed Albert B Strong, M D , five dollars a visit

Estate of Daniel Butters Docket 42, p 230 May 25, 1897 Allowed Dr Frank Billings, seven visits, $100

Estate of Edwin Pardridge Docket 41, p 196 July 22, 1896 Allowed Dr E O F Roler $10 for a night visit

Illustrations similar to the foregoing exist score upon score, and these are cited for information of physicians, most of whom are interested PHILIP CLARKSON

1009 Ashland Block

Chloroform and Gaslight Intoxication

200 OAKWOOD BOUL , CHICAGO, Oct 25, 1898

To the Editor —A note under the above title, in the JOURNAL of October 22, suggests a degree of ignorance or carelessness on the part of the doctors responsible for the occurrence, which I hope is, but may not be, entirely absent from the profession in this country At any rate, it seems to me to be of sufficient importance to justify a further notice The case is as follows A patient was anesthetized with chloroform in the presence of a gaslight The narcosis lasted three hours and during that time the doctors and nurse experienced a spasmodic cough Patient died in six hours, the nurse in twenty four hours and the doctor was "at the point of death" for two or three days The fatal results were attributed to the inhalation of the fumes produced from the combustion of the vapor of chloroform in the gas jet The products of the combustion of chloroform are chlorin and hydrochloric and carbonic acid

There is a very simple way of overcoming this difficulty and one which I have very frequently employed with entirely satisfactory results This consists in accompanying the vapor of chloroform with the vapor of ammonia, the latter neutralizes the noxious gases, producing the chlorid and carbonate of ammonium, which are entirely innocuous in the quantity produced This may be accomplished by pouring a little ammonia water on a piece of gauze or a towel and waving it in the air occasionally or hanging it up near the gas and replenishing the ammonia from time to time So little is required that the odor of ammonia is scarcely noticeable

A few months ago I wrote to a firm and suggested that this fact be stated in their price list, where so many useful facts are given, and they replied that the enormous quantity of chloroform vapor present in some operating rooms made this impracticable if not impossible, that the amount of ammonia necessary would make the room uninhabitable I have repeatedly used this method and have never had any bad effects and indeed none present has ever complained of any inconvenience from either the ammonia or the chloroform and sometimes the operators did not know that any such procedure was being carried out

A surgeon told me that he performed an operation in one of Chicago's hospitals, which lasted a little over an hour and that during the operation the anesthetizer administered to the patient, the attendants and the air of the room *eight ounces* of chloroform The only remedy for such a condition would be to get another anesthetizer

If this suggestion is borne in mind when giving chloroform at night, there need not be any more deaths from chloroform and gaslight intoxication

Yours very truly,
D H GALLOWAY, M D

Chairman's Address of the Section on Neurology

ST LOUIS, MO , Oct 25, 1898

To the Editor —When I began to get my address ready for my quarterly in order to place it for future reference, I sent galley proof to the secretary of the Section The paper has been printed, but three months after the meeting at Denver

I did as I have done heretofore, having no desire to antedate the JOURNAL, but being absent over three months with a sick wife, did not know that you had not published it You can do as you please about abstract, but I do not think Section work will appear as complete as the ASSOCIATION would desire for future reference with only abstracts of president's addresses

If you print only as an abstract kindly put this in your correspondence column, as I wish to go on record with the explanation and gentle protest, my gentle and amiable friend

I do not think you are wise in excluding any address for the good of the ASSOCIATION, no matter what authors may do with them as to other journals, especially the quarterlies

If you decide to publish only an abstract kindly say where the full text may be found, but, if you do, please record my kick Very truly yours,
C H HUGHES, M D

ANSWER —The full text of Professor Hughes' article may be read in Brother Hughes' valuable journal, the *Alienist and Neurologist* of July, 1898 We regret extremely that the good brother could not wait until the publication of the other papers of the Section on Neurology in the JOURNAL, but having decided otherwise, our Chairman's address necessarily falls under the rule

The Proposed Medical Examiners' Bill

CHICAGO, Oct 28, 1898

To the Editor —In the October issue of the *Chicago Medical Recorder*, there appears a report of some remarks I made at a recent meeting of the Chicago Medical Society, in reference to the proposed "Medical Examiners' Bill" for Illinois The report simply contains my objection, and makes no mention of the remedy I suggested for the evil pointed out I happen to know that this omission is not the fault of the stenographer For this reason I ask the JOURNAL to privilege me with a few remarks on the proposed bill

This Medical Bill, originated and prepared by physicians is accordingly *pro bono publico* i e , for the purpose of excluding from the practice of medicine all persons not educationally fitted according to orthodox ideas This is a laudable purpose and a child of a good principle But the promoters of the proposed bill, as it now stands, are so generous that they propose to secure the purpose of the bill by the sacrifice of another good principle, viz a strict adherence to principle or the preservation of personal identity, while homeopaths eclectics and regulars all have more or less recognition by the intelligent laity They certainly differ very materially in the principles of internal medicine, which is surely a very important matter, so that, for regulars to officially endorse homeopaths and homeopaths to endorse regulars, as will practically be the case with this proposed Board of Examiners, we will have an exhibition of acknowledged bankruptcy of medical principles, because to the physician, the focal point of all medical knowledge is therapeutics It is proposed that opposites shall officially endorse and recommend opposites to public favor! Now, my suggestion, made to the Chicago Medical Society, was that the avowed object of the proposed bill would be secured by the several schools simply co operating along the lines common to all, and which would include everything in the usual medical curriculum, excepting internal therapeutics This would preserve self respect all around, while the diploma of a "recognized" medical college, which is to be a prerequisite for admission to the State's examination, would be a reasonable guarantee of qualification in internal therapeutics That other States have omitted this feature can not be an argument for the same fault in Illinois, unless it is good reasoning to say that because others have been weak and foolish we should be weak and foolish also Men holding opposing principles can and should respect each other's honesty of opinions, and for the very same reason they can not afford to unnecessarily compromise their principles, especially their professional principles, for any purpose whatever "High potencies" are either correct or they are monstrous mockeries

Respectfully, J SANDERSON CHRISTISON, M D

Conservative Treatment of Intestinal Occlusion by Internal Electricity

CHICAGO, Oct 31, 1898

To the Editor —The above caption is the title of a very interesting paper by R P Johnson, M D, in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Oct 22, 1898

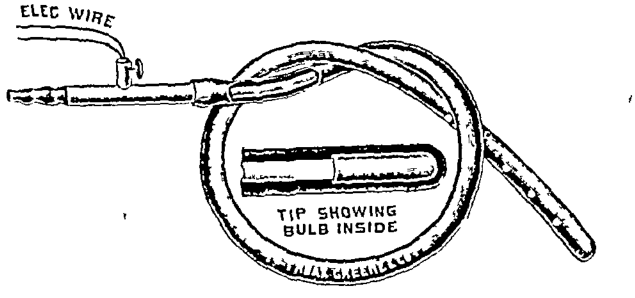
It is not the purpose of this reply to criticise adversely the idea or method of treatment set forth in said article There are, however, one or two points to which I wish especially to call attention

1 The method and manner of application embodied in the paper is the same as that given to the medical profession by M Boudet of Paris eighteen or twenty years ago, and subsequently by Dr M A Cleaves of New York, and others As the essayist quotes quite extensively from Dr Larat, I take it, from the quotations used, that he refers to Dr Larat's article on "Intestinal Occlusion Treated by Electricity," in "Bigelow's International System of Electro Therapeutics," which also gives a very good account of Boudet's efforts and experiments, as well as a clever description of his electrode and the salt solution used by him Consequently he must be more or less familiar with these facts and, therefore, I think, should have given Boudet at least a little credit for his original work and untiring efforts Dr Larat also states that it was Duchenne who first directed attention to the treatment of obstruction of the bowels and habitual constipation by means of electricity, and as he used the faradic current almost exclusively in his experiments, physicians as a rule have had recourse to the same current However, in 1876, Leroy d'Etiolles observed that smooth muscles were not affected by faradic excitations, and that, on the contrary, they are the most powerful in causing contraction of striated muscles Later, Boudet insisted on this same distinction, basing his conclusions not so much on the cases he had successfully treated by electric injections as on the physiologic observations made by experiments on animals He also observed that to give the intestines a galvanic current of sufficient intensity and duration to produce the desired effect with the metallic electrode, there was great danger of causing an eschar of the mucous membrane To avoid this, he invented an electrode which consisted of a gum tube, with holes in the side, supplied with a hollow metallic mandrin to which could be attached a fountain syringe and binding post for fastening the battery cord He used a salt solution for the injection, and the galvanic current, which he interrupted every half minute

2 To use the author's electrode, as directed in his paper, the mandrin, which is exposed to the salt injection, will become corroded, and the oxychlorid of the metal of which it is made set free and driven into the tissues, a condition which might be undesirable

3 I understand that the Doctor has patented his electrode I shall not, in this paper, attempt to discuss *pro* and *con* this phase of the subject, but suffice it to say that such is certainly not in keeping with the "Code" As the method of treatment and similar electrodes have been used for years both in this country and Europe, he surely has no claim to priority, originality, uniqueness or first discovery

In view of these deductions and facts, and recognizing the importance of electric injections as recommended by Boudet and others in the treatment of intestinal obstruction and habitual constipation, I had constructed for my use by Truax, Greene & Co, Chicago, an electrode which they have seen fit to name "Dr J R Pennington's Colon Electrode,' a cut of which is herein represented It consists of a flexible metallic cable on which is vulcanized india rubber and, at the distal end a disc of soluble copper, carbon, zinc, gold or platinum may be attached, according to the purpose for which the electrode is to be used To the proximal end may be attached a fountain syringe and tip of battery cord This electrode is enclosed in a smooth, soft rubber colon tube, so that the current only comes in contact with the mucous surface through an aqueous medium injected through the tube With this electrode no salt or other solution can come in contact with the flexible mandrin to corrode it, and with it we not only get the combined effect of water and electricity, by which the mucous membrane of the entire bowel is given an electric bath and peristalsis actively stimulated, but because of the variety of discs, one can also carry out indications for cataphoric medication or the diffusion of medicated solutions into the diseased tissues, a method which seems to us might be of some importance in the treatment of enteritis, intestinal catarrh, fermentation, putrefactive conditions and mucous colitis as well as relieving obstructions of the bowel and habitual constipation



Columbus Memorial Bldg J R PENNINGTON, M D

Separate Cranial Bones

ADRIAN, MICH, Oct 25, 1898

To the Editor —The case of Dr Roseberry, reported in the JOURNAL of October 15, reminds me of an almost identical one which occurred in my early practice Mrs R M, of about 30 years, was delivered May 16, 1871, of a full term child, male and still-born, the bones of whose cranium were completely separated, and feeling, as Dr R expressed it, like a bag of bones This was her second confinement, and the labor was normal and easy, the child weighing six pounds Her previous child was a strong, healthy male The woman died a few years subsequently of tuberculosis I have no further history of the case

Yours truly, WM E JEWETT, M D

PUBLIC HEALTH

Medical Attendance at Theaters.—The Paris *préfet de police* has ordered each theater to make arrangements so that a physician will always be present from the beginning to the end of the performance, and also at the general rehearsals.

Contagiousness of Pneumonia.—The contagiousness of Pneumonia is not generally accepted, but Dumont has observed five cases in forty in which the coincidence was so striking that he considers mild prophylactic measures should be extended to this disease.—*Nord Med.*, October 1.

Health in Chicago.—The Health Department's report for September gives 1780 deaths for the month, a rate of 1.10 per 1000, as compared with 1.04 per 1000 for September, 1897, and 1.02 for September, 1896. The principal causes of death were: Diseases of the nervous system 219, consumption 182, diarrheal disease 155, other acute intestinal diseases 179, heart diseases 96, typhoid fever 65, cancer 63, pneumonia 61, diphtheria and membranous croup 52, bronchitis 49. The deaths of persons under 1 year of age numbered 470 and between 1 and 5 years 232.

Adulteration of Food and Drink.—A writer in the London *Lancet*, August 27, points out the fact that, in these days, the adulterations of food are generally made with substances that are wholesome, or at least not markedly injurious to health. These adulterations, therefore, come under the head of commercial cheats rather than sanitary offenses; they are cheap substitutions rather than poisonous sophistications. Margarin is an excellent food substance, but it is not butter; and wheaten flour is good, but the fact of coloring it with turmeric does not make it mustard. Gooseberry wine, again, is an excellent beverage, but it can not with the smallest degree of truth be called champagne, even though the name has been accepted for years by the public as a synonym for cheap champagne. Lord Palmerston, it is said, once told a deputation of wine merchants who waited on him that there was never a good champagne year in France unless there was a good apple crop in Normandy. We should like to think that this was because the season which was favorable to the production of good grapes was also favorable to the production of good apples. It is also stated that many owners of large pear orchards in France are under contract to send their entire produce to a firm of wine merchants in the champagne district. It is evident if this be true, that a large section of the public is beguiled into regarding cider, perry and gooseberry wine as champagne. In other words, pears, apples and certain berries evidently afford abundant material for making a very popular, excellent and palatable drink. In spite of this fact people are constantly in pursuit of some fruit juice beverage. But really good cider, perry and the like are not easy to procure except in the immediate neighborhood of their production. Under the falsely described and tempting title of champagne, however, the public eagerly drinks, smacks its lips and calls it an excellent wine. And thus the immoral traffic in substitution is encouraged and sustained, to the enormous profit of the dealer and greatly to the detriment of the purse of the consumer.

Formaldehyde House Disinfection.—The Schlossmanglycoformol apparatus (JOURNAL, xxx, 397) has proved extremely effective at the Manheim General Hospital, where it has been given a thorough trial. The glycoformol is a solution of formaldehydum solutum, glycerin (to prevent polymerization) and water. It is heated over a spirit lamp inside a ring shaped vessel, in which water is also vaporized. The steam from both passes together into four brass receptacles from which it is forced out at a pressure of half an atmosphere, forming a whirling vapor that sets the entire air of the room in motion, so dense that it is impossible to see an electric light or sunlighted window through it. Three hours are sufficient to kill all possibly accessible germs, even anthrax spores dried on a thread and placed in the toe of a boot or in a slightly opened trousers pocket, but the fumes do not penetrate to the center of a thick mattress in this time, and these are disinfected by impregnating them with 2 per cent. solution of formol. While this apparatus surpasses all others to date in the rapidity and effectiveness of its work, it has the great disadvantage that the pungent odor of the formaldehyde clings to the room for several days, and can not be removed entirely even with ammonia spray, which it is impossible to use on painted surfaces. Rabbits are killed by the glycoformol fumes but are not affected by the fumes from any other apparatus. The apparatus costs eighty marks and is guaranteed to disinfect eighty cubic meters. Czaplewski's experience with it has not been equally satisfactory, and he states that the glycerin leaves a sticky deposit on objects. He also finds that an ordinary steam spray inhaling apparatus will answer the purpose equally well, as the glycerin is unnecessary, the effect depending upon the moisture. With this simple arrangement, similar to Lister's carbolic spray, he secured as good results as others with the Schlossman, spraying 600 to 750 c.c. water to a liter of formalin in an hour, and thus disinfecting a space of fifty cubic meters. The main point is plenty of formaldehyde and plenty of steam in the finest spray. If there is dead air or the surface is already wet, the formaldehyde does not penetrate so effectively.—*Munich Med. Woch.*, October 11.

Tuberculosis in North Carolina.—The bulletin of the State Board of Health contains some striking reflections on the prevalence of tuberculosis in that State. The figures are given as approximate and as an aid to a gradual opening up of the subject. Estimating the population of North Carolina at 2,000,000 and the annual death rate at 15 per 1000 there are 30,000 deaths in the State annually. The usual proportion of the deaths from tuberculosis to the whole number of deaths is generally agreed to be one in seven. That would make over 4000 persons dying of that disease every year. Previous to death they were of course in the last stage of the disease and, therefore, virulent foci of infection, and should, according to the resolution, be removed to the sanitaria to prevent infection of other members of the family. Taken at this stage very few cures could be hoped for, but owing to scientific care and treatment, many would be carried over to the next year, and the number of this class would therefore be still larger the second. On a basis of 4000 deaths, it would seem to us fair to assume that there are twice as many in the intermediate and incipient stage, and as they hold out a hope of cure they should have the advantages of the sanitaria. So that the total number in sight to be cared for is 12,000. To allow for any exaggeration, let us deduct 33⅓ per cent. That would leave 8000. If 25 per cent. of these are able to attend a private institution, 6000 would be left to be cared for by the State. At $150 per patient, the cost for maintenance would be $900,000 per annum; counting in interest on plant and incidentals we will call it $1,000,000, which is about the present total cost of our State government, including its eleemosynary institutions. Everything has to have a beginning, and the outlay at first would be small and the good accomplished proportional, but it is very difficult to make a beginning when the end is far out of sight. If funds were available, say at the rate of $10,000 per year, the greatest amount of good would doubtless be obtained in such a State as North Carolina by educative measures, and not by the establishment of sanitaria. Unless the public and the lay press, in the future show a greater alacrity to grasp the importance of the subject than they have in the past, several years must elapse before radical preventive measures will receive support. By missionary labors from county to county, from hamlet to hamlet, it is probable that ten times as much could be accomplished in preventing the spread of tuberculosis, with the same amount of money, as could be done through sanitaria. God speed every effort to stay [illegible] "[illegible] white plague," which robs so many of our hom[illegible] nes, but let us be sure that our efforts are

BOOK NOTICES

The Principles and Practice of Hydrotherapy, a Guide to the Application of Water in Disease, for Students and Practitioners of Medicine By SIMON BARUCH, M D With numerous illustrations Pp 435 New York William Wood and Company 1898

There is no question that in the general neglect of hydrotherapy the profession deprive themselves of a most valuable therapeutic remedy, and this volume, better than any other with which we are acquainted, systematizes and makes available modern methods of therapeutic use of water

The work treats of the physiologic effects of water, the anatomy and physiology of the skin, functions of the skin, physical properties of water, rationale of the action of water in health, the effects of hydriatic application upon the distribution and composition of the blood, influence of hydriatic application on the respiration, on the muscular system and temperature, the practice of hydrotherapy, ablution, half bath, affusion, sheet bath, cold rub, wet pack wet compress, precordial compress, the full bath, the cold full bath, therapeutic indication of the full cold bath, fever, reason for therapeutic supremacy of the cold bath, infectious fever, objections urged against the Brand method, contraindications to the bath, the warm full bath, the continuous or hammock bath, localized continuous baths, the douche, the hip bath, irrigation, lavage, enteroclysis, etc , steam as a styptic, the internal use of water, therapeutic indications, practical application of hydrotherapy Then follow indications for its use in certain specified diseases

Chapter 25 is given up to the discussion and treatment of chronic rheumatism and gout, chapter 26 to the hydriatic prescription, and chapter 27 to a historic summary of the existing state of hydrotherapy in Germany, Italy, France, England and America, concluding with a plea for instruction in hydrotherapy in our colleges and hospitals The work is timely and we fully commend it, and we are sure of its hearty reception

The Principles and Practice of Medicine Designed for the Use of Practitioners and Students of Medicine By WILLIAM OSLER, M D Third edition, entirely revised and enlarged New York D Appleton & Co Pp 1181

This edition has been wholly recast and the arrangement of the sections changed As in the former edition there are eleven sections, but the titles have been changed as follow

1 Specific Infectious Diseases
2 Diseases Due to Animal Parasite
3 Intoxication and Sunstroke
4 Constitutional Diseases
5 Diseases of Digestive System
6 Diseases of the Respiratory System
7 Diseases of the Circulatory System
8 Diseases of the Blood and Ductless Glands
9 Diseases of the Kidneys
10 Diseases of the Nervous System
11 Diseases of the Muscles

The author states that the following articles have been rewritten or are new, viz Vaccination, Beriberi, The Bubonic Plague, Cerebro Spinal Fever, Pneumonia, Malta, Gonorrheal Infection, Cancer of the Stomach, The Gastric Neuroses, Enteroptosis, The Cirrhoses of the Liver, Jaundice, the Diseases of the Bile passages, Diseases of the Pancreas, Diseases of the Thymus Gland, Diseases of the Spleen, Lymphatism, Addison's Disease, Encephalitis, Neurasthenia, Erythromelalgia, and many shorter articles, as Hypertrophic Stenosis of the Pylorus, Ether Pneumonia, Anesthesia, Paralysis, Pneumaturia, Albumosuria, etc

Into the sections on Typhoid Fever, Tuberculosis, Rheumatic Fever, Diabetes, Gout, Parasitic Diseases, Diseases of the Blood, Heart, Lungs and Kidneys, much new matter has been incorporated The section on diseases of the nervous system has been rearranged and an attempt has been made to group the diseases in accordance with the modern conceptions of the anatomy and functions of the parts

We have little to add to our notice of the second edition (vide JOURNAL, Nov 30, 1895, page 966) The criticisms then made hold good now, but we regarded the work as one of the ablest contributions to the literature of the subject in this country, an opinion which we still hold

A Treatise of Diseases of the Ear, Together with a Brief Sketch of the Anatomy and Physiology of This Organ By ALBERT H BUCK, M D Third revised edition Pp , 592 New York William Wood and Company 1898

The present tendency to eliminate specialists is well shown by the author in his preface when he says "During the past few years the boundary lines of the territory which was formerly supposed to belong to the aural surgeon have been very materially extended At first the larger part of the domain of rhinology was annexed, the legitimate right of such a transfer being recognized by all candid minds Then later when it was discovered that many of the intracranial diseases of otitic origin previously looked upon as almost necessarily fatal were to a large extent curable, aural surgeons were obliged to decide promptly whether they should leave this new work entirely to the general surgeon or should assume all its grave responsibility themselves The great majority of them accepted the trust without any hesitation, and the numerous reports of successful operations that have been published by them in recent years both abroad and in this country show that this new domain has been rightly added to the aural surgeon's former territory

The author, who is an experienced editor as well as an able practitioner, has here accumulated an enormous mass of facts and has set them forth very skilfully, in consequence we have a text book at once authoritative and attractive

Manual of Chemistry A Guide to Lectures and Laboratory Work for Beginners in Chemistry A Text book specially adapted for Students of Pharmacy and Medicine By W SIMON, Ph D , M D , Professor of Chemistry and Toxicology, College of Physicians and Surgeons, Baltimore, Professor of Chemistry in the Maryland College of Pharmacy New (Sixth) edition In one 8vo volume of 552 pages, with 46 engravings and 8 colored plates illustrating 64 of the most important chemic tests Philadelphia and New York Lea Brothers & Co Price, Cloth, $3 00 *net*

We had the pleasure of reviewing the fifth edition of this work in 1896, and during the three years that have elapsed many important results of scientific progress have been recorded in this volume

The peculiar feature of the book is the plates giving the actual color and color changes of most of the important tests in science and physiology as a permanent set and standard of comparison for the determination of important questions depending upon the test tube

The author has not yet adopted fully the orthography recommended by the American Association for the Advancement of Science, but the decimal system has been strictly adhered to in all weights and measures, and degrees of temperature expressed in the same system, though the corresponding degrees of the Fahrenheit scale have been mentioned

This edition is destined to retain the favorable opinion expressed of previous ones, and it well merits its deserved popularity

King's American Dispensary By HARVEY W FELTER, M D , and JOHN URI LLOYD, PH M New edition Entirely rewritten and enlarged Two volumes royal octavo, each volume containing over 950 pp with complete indexes Cincinnati The Ohio Valley Co Volume I Cloth $4 50 per volume, post paid Sheep $5 00 per volume, post paid

It is a pity that such an excellent and so well known a book should have been printed on such thin paper as to cheapen its appearance

The long period of time during which the work has been before the public has established its reputation as an exhaustive, learned and valuable contribution to medical literature The present edition is lacking in none of the characteristics which have made previous editions so popular

An Introduction to Pathology and Morbid Anatomy By T Henry Green, M D , F R C P Revised and enlarged by H Montague Murray, M D , F R C P New 8th American edition, thoroughly revised from the 8th English edition, by Walter Martin, P H B , M D Illustrated with 216 engravings of which six are in colors Pp 582 Philadelphia and New York Lea Bros & Co , 1898

The present edition of this book has been prepared from the eighth English edition Many new illustrations have been substituted for less satisfactory ones in the last edition The arrangement of the text has been altered and several new sections have been inserted The new illustrations have been taken entirely from German sources

A new section on some of the animal parasites has been inserted In the section on tumors, glioma has been classed under benign new growths Lymphomata have been omitted and placed under diseases of the lymphatic glands, and the class, endothelioma, has been introduced

This popular text book, by the frequent revision it has undergone, is kept fully up to date, and notwithstanding the rapid changes and great advancement made in pathology it will still be found fully abreast of the times

The Medical Register and Directory of the Indian Empire By James R Wallace, M D , F R C S P , Editor *Indian Medical Record* Second edition, 1898 Cloth Pp 777 Calcutta, India Barker Bros , 150 Dharamtala Street 1898

This volume's contents is arranged in seven parts, Part I containing postal information, monies measures, weights, etc , calculating tables, ready reckoner, and medical items Part II comprises initial nomenclature, the General Medical Council of Great Britain and titular distinguished members of the profession In Part III the medical acts of Great Britain, medical education in the British Isles and in the Indian Empire occupy 338 pages, while Part IV has to do with the Indian Medical Association The military medical services of India occupy 76 pages, i e , Part V, while Part VI contains the retired list and Part VII a general alphabetic list of government officers, medical practitioners, etc

Practical Diagnosis The Use of Symptoms in the Diagnosis of Disease By Hobart Amory Hare, M D , Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia Third edition, enlarged and thoroughly revised In one octavo volume of 615 pages, with 204 engravings and 13 full page colored plates Philadelphia and New York Lea Brothers & Co Cloth, $4 75 net

Three editions of this book have been called for in two years, which is sufficient indication of the popularity it has obtained in this country and Great Britain The text of this third edition has been carefully revised, also important new matter has been added, and new illustrations, taken from life, by photography, have been introduced to render the text more practically useful

This edition is intended as a companion volume to the seventh edition of the author's "Practical Therapeutics," which is published simultaneously

The second edition of this book was only published last year, notwithstanding which fact it has been thoroughly revised, and the present edition will be found fully up to date, and the peculiar features which made the popularity of the former editions have been retained

Notes on Disinfectants and Disinfection By A G Young, M D , Secretary of the State Board of Health of Maine Paper, 218 pp Augusta Kennebec Journal Print, 1898

This volume is a reprint from the tenth report of the board and contains much of value to the physician The author has endeavored to present a review of the experimental work which has been done, more particularly in recent years, for the purpose of determining the germicidal value of the various agents which have been in use, or have been suggested as disinfectants He gives some attention to their antiseptic and deodorant properties, also to the methods and conditions under which the investigations were made The various subjects are considered in their alphabetic order and a decided value is given to the references to the literature, in that the date of the publication is included with the volume and page reference, showing at once whether the work is or is not recent

The Student's Histology A Course of Normal Histology for the Students and Practitioners of Medicine By Maurice N Miller M D Revised by Herbert N Williams, M D Third Edition, revised Profusely illustrated Pp 259 New York William Wood and Company 1898

This book is divided into three parts, the first consisting wholly of the technology, the laboratory, microscope and preparation of tissues for microscopic purposes The second part is given up to the study of the structural elements of the body—connective tissue, cartilage, bone, muscular tissue, blood The third part relates to the organs of the body, which include the skin, the circulatory system, the lymphatic system, the spleen, the respiratory organs, teeth, glands, alimentary canal, liver, kidney, male and female generative organs, suprarenal body, nervous system, spinal cord and the brain

The work is well printed, the illustrations are fine and we commend the book

Text Book of Medical and Pharmaceutical Chemistry By Elias H Bartley, B S , M D , Ph G Fifth edition, revised and enlarged Pp , 788 With 86 illustrations Philadelphia P Blakiston's Sons & Co 1898

This edition of this popular book has been thoroughly revised, the chapter on nutrition, clinical examination of milk, gastric contents, vomit and feces having been largely rewritten The size of the book has not been increased The reformed spelling of chemic terms has been accepted in part The work is full and complete, and deserves a place in the library of the progressive physician For the student there is no more solid and trustworthy guide

Official Messages to Board of Cook County Commissioners, 1894 1898 with an introduction, 1886 1894 By D D Healy, pp 207, Chicago J M W Jones, Stationery and Printing Company, 1898

This book is of great interest to all interested in the hospitals and charities of Cook County, and whatever may be said in criticism of the fact that the largest hospital in the State is without a medical superintendent in charge, it must be admitted that the Board of Commissioners have gone before the public in the person of their most brilliant and skillful president

The reforms which have been instituted, so far as they have gone, were necessary and in the interest of the people and of good government

President Healy, in retiring from office, will have the satisfaction of having conscientiously and ably performed the onerous duties of his office with fidelity, courage and ability, and we believe all will concede in general terms the recommendations of President Healy that Chicago shall be placed under one system, and that within the city limits all county and township governments be abolished

Proceedings of the Kansas State Medical Society Paper Pp 121 Topeka A D Bauer 1898

These proceedings are for the thirty second annual meeting held at Topeka, Kan , May 5 and 6, 1898 The volume contains a list of the incorporators of the society, officers for 1897 and for 1898, a list of the ex presidents, of the members, and the following papers "Mule's Operation—a Substitute for Enucleation ," "Faith Healing and its Congeners ," "Rational Treatment of Ovarian and Uterine Diseases " "Neurasthenia ," "Club Foot or Talipes , ' "Some Laboratory Notes ," "Treatment of Cancer of the Cervix Uteri by Carbid of Calcium " "Multiple Neuritis ," "The Malarial Parasite " until their serum confers passive immunity against this mixed infection —*Munich Med Woch* , October 4

Fish Bones in the Alimentary Canal —Three cases have been observed recently, in Copenhagen, of a chronic intestinal affection caused by accumulations of fish bones in the intestines The fact that a fish diet does not oftener lead to this result was explained by Faber's investigations He found that normally active gastric juice poured over fish bones dissolves the small bones entirely and partially digests the large ones, rendering them soft and transparent After entering the intestines they pass through unaffected by the intestinal secretions The patients in the three cases of obstruction noted were all below average intelligence and the gastric juice was also below the normal acidity —*Hospitalstidende*, May 25

Operations for Extra Uterine Pregnancy —Seventy nine operations are reported by M Strauch (*Wratsch*, 18), with no deaths Laparotomy was performed 63 times The hematocele was opened through the vagina 9 times, twice the uninjured, two months' pregnant tube was extirpated per vaginam, and once the entire uterus was removed to arrest excessive hemorrhage The youngest patient was 21, the oldest 46 years old The ovus was found uninjured in nine cases The right tube was involved in 31 cases, the left in 39, 16 were nullipara, 9 had borne a child a year and 16 over ten years before

Obstruction of the Murphy Button —Tieber reports a fatal case of obstruction of the lumen of the Murphy button by a plum stone, and comments on several other cases in which the button became corked with hard fecal lumps, concluding that the use of the button should always be preceded by rinsing out the stomach and evacuating the intestines to remove foreign bodies, while liquid food should be given for a while afterward —*Vienna Klin Woch* , October 6

An Improved Canula —A canula for irrigating the anterior urethra, designed by Professor Mendoza of Madrid, who indorses it warmly, consists of two concentric tubes, the inner projecting 1 5 mm beyond the outer, which has slits in its sides to allow the immediate reflux of the fluid The irrigation is completely restricted to the anterior portion alone, and the patient can accomplish it conveniently without assistance —*Der m Ztschft* , September

Results of Treatment of Glaucoma —Seventy six patients in Haab's private practice have been followed, and the results of treatment shown more satisfactorily than usually supposed In acute inflammatory and chronic glaucoma 62 5 and 60 per cent have been permanently cured, that is there is absence of all hypertonicity, and in the 8 cases of recurrence, the trouble was dissipated with myotics and only 2 proved incurable In 91 5 per cent the visual acuity has been preserved as good as before the iridectomy and, in some, it has improved There has been no hypertonicity in 77 per cent of the cases treated by iridectomy and in 60 per cent with sclerotomy, the latter should be considered the secondary operation, and combined with myotics if necessary The prognosis is much less favorable in hemorrhagic glaucoma, only 20 per cent were cured and in 40 per cent the vision retained The less serious the intervention in these cases the better results, consequently sclerotomy is preferable Haab has observed a slight hypertonicity at night, disappearing during the day, which may explain the cases in which the excavation of the optic nerve continues progressively, without evidence of hypertonicity —*Presse Méd* , September 24

Penetrating Power of Formaldehyde —This has been found to be greater than usually supposed, by Professor de Rechter of Brussels, who has been testing it in an apparatus with two connecting chambers in which human and animal cadavers were exposed to the fumes of 40 per cent formaldehyde The cadavers could be kept thus for a number of months without showing any trace of decomposition, or it was arrested if it had already commenced When the cadavers had been exposed a sufficient length of time, they could be kept a long while, without evidences of putrefaction, in the ordinary air In cadavers of guinea pigs that had died from anthrax or tuberculosis, and also in the lungs from tuberculous cows, the organs were found completely sterile in two to six days The tests prove that the formol fumes penetrate the entire substance of the cadavers and positively kill the bacteria and anthrax spores in them —*Munich Med Woch* , October 4

Precautions in Artificial Respiration —According to the Vienna correspondent of the London *Lancet*, August 27, Dr Brosch, in an article published in the *Archiv für Klinische Medicin*, gives an account of thirty one experiments he has made in order to prove the possibility of the gastric contents being drawn into the lungs during artificial respiration The greatest quantity of fluid which can be aspirated by artificial respiration amounts to 1210 c c The difference between experiments on the dead body and the conditions met with in the living subject is that aspiration of the gastric contents during artificial respiration is more easy in the living subject than in the dead body The methods of artificial diaphragmatic respiration are the sources of the greatest danger An experiment made by Dr Brosch proved that even in the living subject, when the stomach is full, its contents may be pressed into the pharyngeal cavity by massage and that the cardiac orifice offers but a trifling resistance An elastic tube introduced into the esophagus will prevent the contents of the stomach from finding their way into the air passages, and Dr Brosch recommends that this precaution should be taken before artificial respiration is commenced

An Important Gathering —The Fifth International Congress of Hydrology, Climatology and Geology, opened at Liège in September with 240 attendants, almost all from abroad Excursions to Ostend, Spa and Aix proved interesting illustrations of the addresses on mineral waters The necessity of a department of public health in every country was emphasized Felix of Brussels contended that this department should include in its scope, hygiene, labor and public assistance, as the only way to prevent and combat victoriously the causes of poverty and of physical and moral disease, to utilize economically and impartially the resources of benevolence by centralizing them, and to guarantee the laboring classes against the accidents and infirmities of labor and old age He claimed in addition that the government should suppress distilleries altogether, stating that the revenues from alcohol had increased from 42,000,000 to 61,000,000 francs in 1896-97, showing the constant spread of the evil He made an urgent appeal for sanatoria for convalescents, observing that the State should look after its wounded in the alcoholic slaughter constantly going on, and not be content merely to bury the dead Ameye described his process for sterilizing mineral waters without detracting from their medicinal value or altering the taste They are slowly pasteurized in the bottles to 98 degrees C and then slowly cooled A special needle allows the escape of the impure carbonic gas and prevents breaking the bottles The air is afterward extracted and the bottle filled with pure carbonic gas, which asphyxiates the organisms in the water deprived of air The next Congress will meet at Grenoble in 1901

Not Bound to Furnish Medical Attendance —The supreme judicial court of Massachusetts holds, in the case of Davis vs Forbes, July 14, 1898, which was an action brought to recover for personal injuries sustained by an employe, that the defendant was under no legal obligation to furnish the plaintiff with medical attendance, even if he had been liable for the injury The case of a seaman injured on shipboard, it says, is different

Verdict for Injuries to Nervous System —Where, in an action to recover damages for personal injuries resulting from the negli gence of the defendant, the evidence tended to prove permanent injuries to the nervous system of the plaintiff, and especially to the nerves of her face, causing severe and protracted attacks of neuralgia and headaches; the court of appeals of Kansas holds, in Atchison, Topeka & Santa Fe Railroad Company vs Lee, Aug 10, 1898, that the allowance of $1,000 for permanent injuries was not so excessive as to indicate passion and prejudice on the part of the jury against the defendant

Preparation of Hypothetic Questions—The first appellate division of the supreme court of New York says in Preston vs the Ocean Steamship Company of Savannah, Aug 10, 1898, that it seems to it proper that attention should be called to the constant abuse in the preparation of hypothetic questions asked medical experts to prove the prior physical condition of a plaintiff It is often most difficult for the court to determine, at the time such a question is asked, whether there is evidence to sustain a finding that all the facts that the witness is asked to assume did exist, and counsel should always remember that, continues the court, if a hypothetic question of this character is allowed, and if anything is assumed not based upon facts either admitted or established by evidence, or which, if controverted, the jury might legitimately find on weighing the evidence, an exception to the admission of such a question may be fatal to a verdict

Can Not Test by Habeas Corpus—In the case of People ex rel Birkholz vs Jonas, where the relator had been committed to the county jail by a justice of the peace of Cook County, in default of payment of a fine imposed for the practising of medicine without a license, the supreme court of Illinois holds that he could not by habeas corpus proceedings test the constitutionality of the act to regulate the practice of medicine under which he was convicted It says that the justice of the peace had jurisdiction to hear the case and to render the judgment against the relator, which was complained of, and in doing so said justice had full power and jurisdiction to decide all the questions involved in the case, including the question whether or not the law under which the prosecution was instituted was constitutional The fact that the court was an inferior one, and that its decision of a constitutional question might not be of great authority as a precedent, did not change the case in any degree If he chose, the relator could have appealed from the judgment of the justice, and have had a trial de novo in a proper court of record, in which trial he could, by presenting propositions of law, have preserved for review the constitutionality of the law under which judgment was rendered For these reasons, the writ of habeas corpus was denied

Attending Physician Alone Prohibited—The Pennsylvania act of June 18, 1895, is in the following words "That no person authorized to practice physics or surgery shall be allowed, in any civil case, to disclose any information which he acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity, which shall tend to blacken the character of the patient, without his consent " It will be seen at once, says the supreme court of Pennsylvania, in Wells vs the New England Mutual Life Insurance Company, July 21, 1896, that the act establishes a personal incapacity only It is the physician attending a patient who is prohibited from testifying to information acquired while rendering professional service He is prohibited by the words, "no person authorized," etc , "shall be allowed to disclose any information," etc No other person who, being present at the time when the information was communicated, heard the same, would be prevented by this act from testifying to the very matter in question It is only the physician himself who is prohibited, and that is manifestly on account of the professional relation between himself and his patient Where a physician was examined as a witness, and his deposition taken, at a time anterior to the passage of the above act, and at that time he was perfectly competent to testify to the matter in question, but subsequently, and before the trial in court, died, and the act above quoted was passed, the court holds that it was error to rule out the deposition because of the incompetency of the witness at the time of the trial if he had been living

May Testify as to Another s Bill—A judgment obtained for the amount of a bill for medical services was reversed by the supreme court of South Carolina, in the case of Ward vs the Ohio River and Charleston Railway Company, July 19, 1898, because of the refusal of the circuit judge to allow an expert witness, a physician, to testify whether the bill for medical services was unreasonable and too high, notwithstanding the witness had heard the plaintiff, as a physician, testify to said charges, and had also seen the foot that was treated The judge ruled that, as an expert, the witness could not give his opinion on the facts of the case But the supreme court says that it is unable to distinguish between lawyers and doctors as witnesses, for a lawyer is allowed to give his opinion in court as a witness touching the value of a brother lawyer's account for services Why may not a physician testify in the same way as to the compensation sought by a brother physician? The jury are not concluded by the opinions of either lawyers or doctors They may still weigh the evidence (the opinions of experts) by reference to the nature of the services rendered, the time occupied in their performance and other attending circumstances, and by applying to them their own experience and knowledge of the character of such services The court adds, these observations are directed to those cases where there is the absence of an express contract between the parties as to such charges

N Y School of Clinical Medicine—The forthcoming "Prospectus" of this school will contain, among other additions, the names of Prof Herman Collyer in gynecology, Prof John J Morrissey in practice of medicine, and Associate Prof M Kenyon, operative surgery on the eye and ear Louis Fischer, M D , has been elected secretary

Washington

HEALTH OF THE DISTRICT—The report of the health officer for the week ended October 22 shows the total number of deaths to have been 119, of which 62 were white and 57 colored At the close of the week there were 134 cases of diphtheria and 105 cases of scarlet fever under treatment

San Francisco

NEW MEDICAL BUILDING—October 22, the new home of the Medical Department of the University of the State of California was formally opened and dedicated For eleven years this department of the university has been fighting to obtain from the State a more suitable building, and this event was the closing scene of the long struggle Dr Cole delivered the opening address, which was followed by one by Regent Dr Rowell His and the address of the president of the University, Prof Kellogg, were very significant of future intentions regarding the Medical Department It is the open and avowed desire of at least two members of the Board of Regents, to see the Medical Department take the leading place in medical education in this country The address for the faculty of the Medical Department was by Washington Dodge, M D Miss Rachel Leona Ash, B S , University of California and a senior student of the Medical Department, then presented, in the name of the women graduates of this department, an oil painting of the late Adolph Sutro, the donor of the land on which the affiliated colleges are built Dr R Beverley Cole, as the president of the Medical Department, accepted the gift of the portrait of Mr Sutro, in the name of the faculty, and assured the donors that it would be placed to their satisfaction After the close of the exercises the regents, faculty and invited guests were served lunch in one of the recitation rooms

The regular college work in the new building commenced on the 21th

Philadelphia

DR HUIDEKOPER RETURNS —The hospital ship *Relief*, with 238 sick soldiers from Porto Rico has reached this city On board was Dr Rush Shippen Huidekoper, who has been detached from his command in Porto Rico to report before the investigating committee at Washington In an interview with a press reporter he stated that he was still chief surgeon of the United States troops in Porto Rico, and would return to his duties there after reporting before the investigating committee in Washington

ST JOSEPH'S HOSPITAL —The forty ninth annual report of this hospital has recently been issued Bequests of the late George S Pepper, amounting to $35,687 50 have been received, the interest only of which is available During the year just closed a total of 1814 patients were treated in the hospital, 722 free of charge, while 30 paid a small amount, really less than the actual cost of maintenance, and 1062 made a fair compensation, the excess over net cost being devoted to the general expenses of the institution The intimate relationship which the hospital bears to municipal needs is demonstrated by the fact that the service of the police patrol brought 459 cases of injuries and emergencies, while the ambulance service responded to 274 calls, the total number of accident cases treated in the receiving ward and house being 1515 The most notable improvement of the year is the building of a new wing at the Seventeenth Street entrance, in which has been installed a thoroughly equipped pathologic laboratory

PEACE JUBILEE —Although this city has been crowded by hundreds of thousands of visitors to see the Peace Jubilee parades, and although most of these people were upon about nine miles of streets, there have been but comparatively few casualties reported, and only one which has resulted fatally

MORTALITY STATISTICS —The total number of deaths for the week ending October 29, was 348, being a decrease of 41 over last week, and a decrease of 1 over the corresponding period of last year Of the total number of deaths 87 were under five years of age

LECTURE —At a recent meeting of the Fellowship of Ethical Research, Dr Daniel G Brinton delivered an address on the "Diseases of Nations" He is quoted as treating the nation as an organism like the human body, and discussed such diseases as render it incapable of self preservation The speaker then stated "That according to history the average life of a nation was from 800 to 1000 years, its disintegration for the most part being due to 'moral disease, as corrupt government, or priesthood, though nations do not fail from psychologic cause" The etiology of the diseases of nations he thought due to imperfect nutrition, poisons, mental coma, and sexual aberrations, each one of which received due considera- tion from the speaker, reviewing the causation factors in the health and welfare of this country, Dr Brinton believes that our mode of life, use of stimulants and drugs might have some tendency toward mental coma

ANOTHER HOSPITAL TRAIN —The German Hospital recently sent another train to Camp Meade, returning with thirty six soldiers, many of whom are suffering from typhoid fever The train was in charge of Dr Charles Turnbull of the hospital staff, the medical department being under the charge of Dr Carl Frese The Board of Trustees was represented by Horace E Smith, and the Government by Major Peyton It is stated that the entire expense of the train was borne by John D Lankenau, President of the Board of Trustees of the Hospital The Government also brought back twenty two soldiers to be distributed to the different hospitals of the city

RESULTS OF WIDAL REACTION —Out of twenty five cases of fever among soldiers recently admitted to the St Joseph's Hospital, Dr Joseph Sailer reported that in fifteen cases a positive reaction was obtained, and all subsequently turned out to be typhoid fever, while in several in which a negative reaction was obtained they subsequently proved not to be typhoid Dr Pease of the Bureau of Health states that as a result of his examinations the positive reaction has been subsequently confirmed by a clinical history of typhoid in 97 per cent of the cases

SOLDIERS TO JEFFERSON HOSPITAL —Jefferson Hospital was one of the first institutions here to offer its facilities for the treatment of sick soldiers of the Government Not only this, but the whole graduating class volunteered their services in case of need Appreciating the courtesy, the Government recently dispatched a hospital train carrying twenty four men from Camp Meade to that institution

CONTRIBUTIONS TO NATIONAL RELIEF COMMISSION —Mr George C Thomas, through the banking firm of Drexel & Co, makes the following statement regarding contributions for the relief of sick soldiers Cash previously acknowledged, $77,294 35, value of supplies contributed to date, $40,345 00, total, $117 639 35 In addition, the "Medico Chi" reported contributions aggregating $5,229 67, and the Woman's Hospital, $339 20

MUNICIPAL HOSPITAL —One day this week fire broke out in the drying room of the laundry connected with the Municipal Hospital, in which are many patients suffering from diphtheria and scarlet fever Some excitement was necessarily occasioned for the time being, but the flames were promptly controlled, and the damage sustained was small

---

CHANGE OF ADDRESS

Bellamy R from Newport R I to 210 W 57th Street, New York, N Y
Brock G S, from Bush to London Ky
Birdsall W G, from Denver Colo to El Paso Texas
Collins B F, from Toronto to 215 N Phelps Street Youngstown Ohio
Clements G E, from Crawfordsville Ind to 757 W Monroe Street, Chicago Ill
Campbell W H from 330 W Fourth Street to 330 E Fourth Street, Cincinnati, Ohio
Druet A L from Marysville to Anamosa Iowa
Gessner H B, from 731 Carondelet Street to 1450 N Rocheblane Street, New Orleans La
Gibbs M D, from Macon to Gillett Colo
Hoffman, A from 174 Ashland Boul to 6011 Vernon Ave Chicago Ill
Jones C C from Brock to John Sealy Hospt Galveston Texas
Leach W D from 1125 to 1087 Washington Boul Chicago Ill
McKlveen, F G, from 103 Byers Street to 150 So Broadway Denver, Colo
Monette, G N, from 1124 St Charles to 1021 Baronne Street, New Orleans La
Reed J H from Burnett's Creek to Hammond Ind
Rietz P C, from Chicago Ill to Evansville Ind
Shortridge, W R, from Monroe, Wis to Elgin Ill
Ussery W C from St Louis Mo to Paris, Ky
Vedeler C from Locust Iowa to 715 W Harrison Chicago Ill
Van der Veen C from 143 Fountain Street to 554 Grandville Avenue, Grand Rapids, Mich
Wertz J A, from 509 Third to 861 Trumbull Ave Detroit, Mich

LETTERS RECEIVED

Amos C F, Lumberport W Va Allen & Hanburys Ltd, New York
N Y
Blincoe A G Bardstown Ky Bunce W C, Oberlin, Ohio Bromine
Iodine Chemical Co Binghampton, N Y, Bashaw, Darwin, Craigsville
Va Bailey S Mt Ayr Iowa
Cox Heldman & Shortle Chicago, Ill
Dodsworth & Dunbar Cincinnati Ohio Daniel J B, Atlanta, Ga
Dale J F, Lemont Pa Derrick Paul E Adv Agency New York N Y
Eastman J R Indianapolis, Ind Eastman, T N, Uniontown, Pa
Elliott, H G, New York N Y
Fernandez J D Jacksonville Fla Farrington, J M Binghamton,
N Y Folkes H M, Biloxi Miss Fuller's Chas H Adv Agency Chicago Ill Foulor I D East St Louis Mo Fischer, Louis (3) New
York N Y Fischer Chemical Importing Co, (2) New York, N Y
French L (2) Davenport, Iowa
Gabel H G Aurora, Ill Graham Mrs S Butler Pa Griffith, J P
Crozer Philadelphia Pa Gross L San Francisco Cal Greenlee D
R Minnehaha, Minn Guthrie J A Portsmouth Va
Hobart J P Cincinnati Ohio Hessler Robert Indianapolis Ind
Housheer, W V Detroit, Mich Holmes C R Cincinnati Ohio Har
baugh C H Philadelphia Pa Humiston W H Cleveland, Ohio
Hardin A E Fort Smith Ark, Harnsberger S Catlett Va Hall, H
L Toledo Ohio
Johnson, H L E Washington D C
Kunkler J E Bloomington, Ill
Lord J P Omaha, Neb
Mears D W Ashland Pa Mogk Wm A Ann Arbor, Mich McKes
son & Robbins New York N Y Main R H Barry Ill McLean Don
ald Detroit Mich Mueller V F Milwaukee, Wis Merrick, M B,
Passaic N J Mulford Company H K Philadelphia Pa
Newton C B, Stafford Springs Conn
Oppenheimer, S New York N Y
Parke Davis & Co (2) Detroit Mich Porter J W Litchfield, Kans
Pitner F R Clay City Ill Plath O E (2) Phoenix Ariz
Randall B A Philadelphia Pa Reyburn Robert Washington, D C,
Russell E D Clare Iowa
Salter R W New Orleans La Saunders W B Philadelphia Pa
Sharp & Smith Chicago Ill Shadd F J Washington D C Shelley,
J Elmsdale Kans Silver D R Sidney Ohio, Stevenson H E, Chi
cago Ill
Thomason H D Huntsville Ala Thompson, L Troy Grove Ill
Trader C J Council O T Tufts A H Sioux Falls S Dak
Van Houten & Ten Broeck New York N Y
Wade R J New York N Y Wallan M L New York N Y Waller
G P Montgomery, Ala Woodman John New York, N Y Woody S
E, Louisville, Ky

The Journal of the
American Medical Association

Vol XXXI CHICAGO, ILLINOIS, NOVEMBER 12, 1898 No 20

ORIGINAL ARTICLES

THE RELATIONS OF PELVIC AND NERVOUS DISEASES

WITH SPECIAL REFERENCE TO OÖPHORECTOMY FOR FUNCTIONAL NERVOUS DISORDERS

Presented to the Section on Neurology and Medical Jurisprudence at the Forty-ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY ROBERT T EDES, M D
JAMAICA PLAIN (BOSTON) MASS

The question before us is one of great importance, and has presented difficulties fully commensurate therewith, but experience, more accurate and trustworthy if less fascinating and brilliant than the most ingenious theorizing, has answered at least a part of it

There can be no doubt as to the frequent and important relationship existing between the two sets of symptoms under discussion, but the nature of the connection and the way in which it is established in each individual case is a matter by no means so clear, while the interpretations which may be put upon the same set of phenomena differ as widely as the theories and prejudices of those who are called upon to make the decision The ease with which all nervous symptoms may be so simply and confidently referred to disorders of the pelvic organs, and the equal facility with which objections on the ground of physiology or experience may be silenced by a jaunty and wholesale use of that much-misunderstood and overworked word "reflex," have settled it as a well-understood fact in the minds of a large part of the laity as well as of the profession, that if a woman is "nervous," and has at the same time some uterine displacement or inflammation or neuralgia, the real cause of her sufferings has been found, and there can be no doubt of the relation of cause and effect between them The belief has led to a vast amount of gynecology and surgery useless and worse than useless

I presume it is true that the popular ideas are often more extreme in this direction than those of the most conservative, at least, of the profession, and that a certain amount of treatment is undertaken quite as much to satisfy the wishes of the patient or her friends, as to carry out the requirements of a well-considered diagnosis But the popular medical errors of today, as has been shrewdly remarked, are the professional medical errors of a former generation, and women believe as our predecessors taught their mothers, and not as we would teach themselves In great numbers of the cases of chronic invalidism familiar to most of us, the mutual interaction of somatic and psychic influences has made so complicated an entanglement, that in the individual case the truth is by no means easy to trace, and when the practitioner has placed before him for immediate adoption one or the other of two extreme alternatives, that which brings into the foreground distinct symptoms and definite lesions susceptible of operative interference, is naturally enough the more attractive This apparent decisiveness and practicality, combined with a full appreciation of the safety of modern surgery, have led to an immense amount of activity that has done more harm than good

There are two distinct ways in which the influence of the pelvic organs upon the nervous system is felt In the first, the diseases of the uterus, ovaries and adnexa produce the same amount and kind of nervous symptoms that other wasting and painful diseases may do, either directly, or indirectly by way of anemia and impaired nutrition It has often been remarked that hysteria is not usually found in connection with gross organic disease of the uterus, and the same is true of the more vague condition of neurasthenia Even with such lesions as displacements, which might be supposed—as keeping up a more permanent irritation of a low grade—specially prone to cause functional disturbances, we find the latter associated, not so much with an extreme procidentia, for instance, as with those slighter forms only to be detected by the trained senses of the specialist In other words, when well marked and clearly diagnosticable lesions of the pelvic viscera coexist with the well marked nervous symptoms, there is no close correspondence in the severity of the two sets, and it seems to me more philosophic, without denying all influence to the pelvic viscera, to assume that in the great majority of cases the pelvic lesions are certainly not the only factor—and perhaps not even the important and causative one—but rather are coexistent and dependent either upon two different causes or upon a single one underlying both, which may often be a general impairment of nutrition The fact that the attention of nervous patients is so frequently and strongly directed to the pelvic organs proves no more and no less than the kindred facts of "nervous dyspepsia," cardiac disease or "spine disease"

The second of these ways is that much less easily explicable influence which the physical development of the sexual organs, normal or abnormal, exerts upon the growth and functions of the nervous system in some of its higher manifestations—evident at a very early age rising to its greatest activity during the period of complete sexual development, and again decreasing or disappearing after the time of involution Here also it is quite as true that the two developments pelvic and nervous, are coincident, rather than that either is strictly consequent upon the other Certain it is that interference with the normal relations and development of the two under the influence of improper education, social conventionalities, or conflicting interests, has much to do with the production of certain forms of nervous disease

Like many other well-known facts, these relations are open to wrong interpretation on both sides They may be, in the individual case, obscure and totally overlooked and all connection denied, though of this error in practice the risk is slight. If the practitioner be inclined to forget, there is usually a hypochondriac patient or her disinterested friend to remind him. On the other hand, their importance may be grossly exaggerated. While we have admitted the close connection and parallel growth of the sexual organs and portions of the nervous organization, it is probably true that after a time, perhaps an early one, the habit of growth on each side becomes fixed and can progress independently of the other, so that nervous peculiarities which at first were closely connected with the sexual development have become established, and remain with comparatively little reference thereto. It is understood that among animals the effect of castration upon the general growth decreases according to the degree of maturity already attained, and the same thing is undoubtedly true of the human being.

The cessation of sexual activity in the female is marked in the popular, even more than in the professional mind, by a decided tendency to nervous as well as physical disorders. The more gradual changes, or perhaps rather, fixation or crystallization, of mental characteristics, which go on slowly and gradually for some years in both sexes, being emphasized in the female by a well-marked and definite phenomenon, are very likely to be referred to that phenomenon as a cause, if, as not infrequently happens, those peculiarities approach the borders of mental unsoundness or exaggerated nervousness. In by far the greater number of cases the "change of life" is accomplished with but little disturbance, but it is exceedingly difficult to disprove to the patient that vague effect so commonly attributed to it, in view of the long time over which its influence is often suspected to be felt, sometimes hardly less than a fourth of the allotted years between the cradle and the grave. A woman is very apt to begin to think about it if she has any ill-defined nervous trouble at the age of 35 years, and will not cease to do so until it is accomplished, which may not be until she is 55.

Weir Mitchell has had the records of a large number of cases of melancholia examined with reference to the age at which they began, and finds no statistical ground for attributing its occurrence, as is so often done, to the change of life. In regard to neurasthenic symptoms it is certainly not strange that they should be more marked at a time when the general vigor is on the wane, when outward circumstances are very possibly of a character to throw one back upon her own resources, and call attention to her own physical and psychical peculiarities, but there is certainly no close limitation to the precise period marked by the cessation of the menstrual function. That crystallization of character which is likely to take place as years advance occurs in both sexes, and may be much earlier in one person than in another. Dr. Holmes' allusion to old women of both sexes is sufficiently familiar, as well as the complaint of Admiral Jervis that the Channel Fleet was commanded by "a lot of old women disguised as young men." If the connection were a very intimate and causative one we ought to see, instead of mental troubles coming on at the menopause, a very marked and positive cessation of them when the "change of life" is accomplished, which is very far from being the rule, although such exceptions do occur.

Looking at these relations from a therapeutic point of view, we may consider the treatment of nervous disorders by local treatment of the pelvic organs, and on the other hand, the influence of agencies acting through the nervous system upon disease of the pelvic viscera. It seems to go without saying that if a local cause of irritation is keeping up functional nervous disorders, it should, if possible, be removed, unless the removal will leave behind more trouble than it will take away. This is the question to be decided as each individual case comes before us, and is to be answered in the light of experience rather than as a matter of abstract probability. It is to be answered from the combined knowledge of the gynecologist and neurologist, united perhaps in the person of the same physician, but never by the mere operator anxious for a "record." When diagnosis is clear and treatment certain, or as nearly so as can reasonably be expected, there is little more to be said, but when the advantages to be expected from local treatment are somewhat doubtful and when it means feeling one's way through a wilderness of doubtful diagnosis to a merely possible cure, then even minor gynecology becomes of questionable benefit, and the very decided offsets should be carefully weighed.

A mass of hypochondriacal delusions can be more easily built up on this basis than on any other unless it is on the "spine." To be sure heart and lungs and liver and blood may serve their turn, but are more easily ruled out on account of the greater definiteness of the symptoms which can reasonably be assigned to them. Tradition, popular prejudice and accident play no inconsiderable parts in giving "that bad eminence" to the pelvic organs. An attack of "uterus on the brain" is not always wholly the fault of the patient. Like many other psychic abnormalities and superstitions it may be the result of faulty education, for which the over-enthusiasm of our own profession is often largely responsible.

When, however, we come to that less explicable and definite but no less real relation, where the functional activity, normal or abnormal, of the pelvic viscera is closely allied with nervous and mental manifestations and where pelvic disorder, instead of being, like lesions in other organs, simply a source of irritation, wasting or infection, is the origin or, perhaps more correctly a part and parcel of the nervous disorder, then the question of surgical interference is less easy to answer. If we are to look upon the growth of the two systems in question as rather corresponding and harmonious than as consequential it is certainly possible or probable that after the early stages either one of them may pursue its course independently, if the other be abruptly interfered with.

It is certainly conceivable, on the other hand, that in many severe neuroses the removal of the most essential organs of the sexual system might be of great benefit, and we must look to experience rather than to a priori considerations for a decision. Under the stimulus of this theory and of hope, combined with confidence in the present security of surgical manipulations, the experiment has now been made many times.

If it were possible to anticipate by years the fate of each child, if we could know as a certainty, as we can now guess, what might be the abnormal tendencies in each, and what would be its opportunities for the restraint and correction of them, it is far from improbable that such an operation might prevent or modify their further development—although at the price of checking other growth—and would be a great source of relief to the patient, the family or the community

This is as likely to be true of the male sex as of the other But who would take this responsibility? Certainly not the physician, who knows that his fears are not always justified, and is aware how much may be done by training and by medicine Who would voluntarily submit to it? Certainly not those who need it most

In our present conditions of diagnosis and of civilization, it is as impracticable as the imprisonment from infancy of the hereditary thief or the hanging of the murderer before he has selected his victim But experience in men and animals goes to show that if this change is effected later in life, its action upon the general sexual characteristics is much less The growth and development has been accomplished and remains comparatively unchanged Unfortunately, it is this condition which most closely represents the results usually found when it is sought to relieve the chronic nervous sufferer by a so-called "normal" oöphorectomy The nervous disposition remains the same after the psychic effects of the operation per se have passed off, with the additional burden of new locations and excuses for pain, and the disappointment of a last resource tried and failed

It has happened to me to have brought to my attention a considerable number of cases, which, for one reason or another, connected for the most part with nervous conditions, have had ovaries removed, either healthy or not seriously diseased It would be, of course, entirely unfair to conclude statistically from these that the operation is nearly always a failure, for it is only the failures which call for further treatment, while the successes do not present themselves at "nervines" I have, however, taken pains to inquire for other cases of which these patients may have heard, since they are not likely to take so important a step without some definite encouragement, but without getting hold of enough of them to make me change my opinion

I have heard of the remark having been made by some distinguished obstetrician that every woman who has been able to get out of bed unharmed in less than a week after confinement, was a curse to her sex, and a similar view might properly be taken of the very few successful cases of "normal oöphorectomy" Four years ago I reported upon twenty cases of this kind which had come to my knowledge, which gave one case of complete and decisive recovery apparently due to the operation, one (aged 40) in fair health, the operation in this case having been done for actual ovarian disease, one death, after many years of invalidism, succeeding the operation, but in no way connected with it, one death from cocain, one hopelessly insane Some of the remainder, except one not heard from, were invalids for some years, and many are still so In a few there was improvement as regards dysmenorrhea and local pain, without any material change in the general condition I do not know what happened to most of them during the last four years Fifteen others have come to my notice since, some of whom were inmates and some applicants for admission to an institution for the care of nervous cases My information as to some of them is not sufficiently minute to make a statistical statement of much value Two of them, some years after the operation, were "better," or "much better," but of the eight with whose cases I was more acquainted, only one seems to have experienced any benefit, and this of a doubtful character She had the ovaries removed in 1894, grew worse until 1896, had the uterus removed in 1897 and went home "well" She seems, by her letter, to have had considerable sickness since, but is now "gaining and hopeful," a not unusual frame of mind for a time, but not always confidentially shared by the physician who has the opportunity to watch such cases after the first enthusiasm has worn off One died after a condition of extreme nervousness with hallucinations, but it is not probable that the operation, which was for actual ovarian disease, had anything to do in one way or another with the final symptoms It can only be said that it had not cured her nervous condition One shot herself six months after a "very successful operation"

Mrs J, a corpulent, dark complexioned woman, had a variety of severe hysterical symptoms, ostensibly as the result of a fall from a bicycle After much ineffectual treatment, her ovaries were removed I heard, from time to time, of the continuance and aggravation of her mental and nervous symptoms, and after some time she sought readmission to the institution where she had been treated previous to the operation

Mrs M, decidedly neurotic, was much grieved by the death of a daughter in early childhood She was operated on for an appendicitis, in which one ovary was involved, with, according to her own statement, the distinct stipulation that the other was not to be meddled with The surgeon, however, saying that there would probably be something the matter with it by and by, removed this also Her disappointment and indignation at the breach of trust, and the loss of the possibility of another child was justifiably extreme She is now a broken down and incorrigible narcotist, saying that she has nothing to live for, and refusing to give up her morphin

A young woman, of much courage and energy, but neurotic heredity and antecedents, had vertigo and some curious notions of the agoraphobic type, which she managed partially to conceal, knowing them to be morbid She had both ovaries removed, and afterward managed to get through a training school for nurses She soon broke down again, and although, after long rest she improved somewhat, again went to pieces on slight provocation

The others present no special points of interest

Notwithstanding these unfavorable results and the conviction that on the whole these cases did no better than, perhaps not so well as, the same number submitted to a sufficiently prolonged and careful non-operative treatment, it would be going too far to say that the operation is never justifiable There are cases whose nervous symptoms are so severe and so utterly rebellious to all other treatment that the slightest chance of getting rid of them, even at the risk of establishing new ones, may justifiably be taken They can not be much worse, and they may be a little better

Such cases are far from common, and can not be made to cover a tithe of the operations which have been done The inconvenience and sufferings of dysmenorrhea, local pelvic neuralgias, and the more remote conditions of neurasthenia, dyspepsia, headache and others, are only in the rarest possible instances adequate excuse for it The objection, however, arises not from the fact that there are undesirable accompaniments, for the price of comfort, even if not of cure, would not be too great to pay if one could be sure of obtaining for it the desired result, but because in the vast majority of cases the price is paid and can not be recovered, while the relief is either none at all or only such as may be temporarily obtained from any strong impression whose effect is hopefully awaited

In nineteen twentieths of the cases normal oöphorectomy stands on the same basis as regards its immediate effect on the patient as any of the popular forms of faith cure No form of functional trouble of the nerves, even when supposed on good grounds to be connected with disease of the pelvic organs, should be submitted to oöphorectomy until every other means has been tried, not merely perfunctorily and as a mere excuse for operating, but methodically and faithfully

On the other hand, what is to be expected of treatment of nervous symptoms as to its effect upon actual pelvic disease? According to the faith-curists of all sorts—everything, according to rational pathology, little cure but much relief in some cases Every one knows how much the condition of nutrition influences the degree to which local symptoms become wearing and irritating upon the general system Purely subjective pelvic sensations are not disease of the pelvic organs at all, and provided they are recognized as being what they really are, no one would pretend to treat them locally, but erroneous diagnosis has undoubtedly thrown many such cases, either into the hands of faith-curists, who have not failed to glorify themselves therefrom as cures of organic disease, or into those of operators, with the result already described

On the other hand, we know how useless, and worse than useless, it is to persuade a patient with cancer or fibroid that her pain is only "nervousness," and hemorrhages of no consequence The attempt to do so, if successful, may cost her life, and is little less than criminal Faith-curists, whatever their sect, and whatever we may think of their claims or results in functional cases, are here the most rampant and dangerous of quacks

From all which it follows that, in this region, as in many others where medicine and surgery come in close contact, the diagnosis is the crucial point, and it should be made before the operation Experiment with good results hoped for is not justifiable, and "art for art's sake" is no motto for the surgeon

---

THE METHODS EMPLOYED IN EXAMINING THE EYES FOR THE DETECTION OF HYSTERIA

Presented to the Section on Neurology and Medical Jurisprudence at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY CASEY A WOOD, M D

CHICAGO

Although much has been written regarding the value of the ocular signs and symptoms of hysteria in the diagnosis of that disease, I believe there is good reason for returning to several matters in this connection that seem to me of vital importance, especially as I do not think sufficient stress is commonly laid upon the means by which one must arrive at diagnostic conclusions

My own belief, after a somewhat extended acquaintance with this disease is, that, if one were to make a special study of that organ that most uniformly exhibits the evidence of hysteria, the eye would afford the most information, even more emphatically than the skin or the mucous membranes On the other hand, anomalies of the general sensibility are probably more easily detected by the average individual (who methodically searches for them) than are ocular defects But as the scientific observer omits no examination that will assist him in arriving at proper conclusions in diagnosis, prognosis or therapy, I enter a plea for a more thorough and more general use of certain methods employed by the ophthalmologist in detecting the presence of ocular hysteria as one manifest of the general neurosis

First of all, then, what are the commonest ocular manifestations of hysteria, what the most reliable means for their detection, and how may errors in examination be avoided? I need hardly say that some acquaintance with the use of the ophthalmoscope is of great value in the diagnosis of ocular hysteria, and in investigating the subject one should be certain that there are no alterations in the interior of the eye to account for the visual disturbances It is not fitting that I should point out the value of ophthalmoscopic examinations to the trained neurologist, I do not very well see how he can dispense with them Should he be unable to examine the background of the eye with the mirror he should at all events, seek a report upon the condition of the fundus at the hands of some confrére expert in that work As is the case with other organs of the body, there are absolutely no tissue alterations to be found in any part of the eye, due to the presence of hysteria A negative report upon the fundus condition is, therefore, a *sine qua non* in examining a suspected hysterope

ANOMALIES OF ACCOMMODATION

Taking one age with another, the commonest ocular sign of hysteria is a defect in the focusing power of the eye—anomalies of accommodation For various reasons these conditions have been called *hysteric insufficiency of accommodation, ciliary paresis or paralysis, painful accommodation, nervous asthenopia*, etc The patient complains of the usual symptoms of asthenopia—pain in the eyes and forehead when attempting to read or do any other near work, blurring of print, photophobia, frequent winking, etc These cases are rarely permanently relieved by glasses or by an exclusive local treatment of the eye In all there is a defect in the range of accommodation ! This so-called paresis of accommodation is nearly always in the form of a true hysteric contracture of the ciliary muscle—the motor power by which the eye is focused for various distances The nearest point for which the eye can accommodate itself for the distinct seeing of small objects varies with the age of the individual As you are well aware, this point is quite close to the eye in childhood, remote from it in old age On the other hand, every eye has a certain range of accommodation, that is, there is a certain space within which small objects can be distinctly seen, and when the eye is normal, or when the refraction is rendered normal by distance glasses, this range is singularly and wonderfully constant in individuals of the same age, and I believe that the neurologist who is on the lookout for deviations from the normal accommodations will obtain assistance in diagnosis by bearing this fact in mind For all practical purposes, however, one may ignore the extent of this accommodative range and confine one's attention to the nearest point of distinct vision, that is almost always affected in hysteria, that is to say, is usually too near or too far away from the eye of the hysterope The following table indicates the proper distance, and it is a very easy thing to determine any deviation

Age	Nearest point of distinct vision
10	7 cm
15	8 "
20	10 "
25	11 7 "

Age	Nearest point of distinct vision
30	14 cm
35	18 "
40	22 "
45	28.6 "
50	40.5 "

An eye that is under the influence of hysteria acts either as if it were under the influence of pilocarpin or atropin, the patient is able to read fine print either abnormally near or sees small objects most distinctly farther away than he should.

In practice, all that it is necessary to do is to have the distant vision, if abnormal, corrected by glasses and then ask the suspected individual to read the finest diamond print, held as near to the eye as possible. The patient, with his back to a good light, is asked to read a portion of a page of this print, at the normal distance from the eye, as shown by the table. If he continues to read it when brought a couple of centimeters or more nearer, or if he cannot read unless it is removed farther away than the normal distance, a defect of accommodation is certainly present. I recommend this as one of the most satisfactory and most easily applied of all the tests. As in other forms of spasm or paralysis of accommodation, the condition may often be relieved by glasses. It often happens that a young subject must be treated as if he were sixty years of age, requiring a strong convex glass for reading at the normal distance or a concave glass for street wear. In both instances a few drops of a 1 per cent solution of atropia will disclose the true refraction, often unmasking the hysteric character of the defect.

DEFECTS IN THE FIELD OF VISION

As every neurologist knows, defects in the field of vision constitute some of the commonest signs of disease of the ocular apparatus, and that they are of paramount importance, while a knowledge of their peculiarities is of great value in determining the presence of hysteria. For purposes of comparison, I show two perimeter charts one of the normal field and the other furnished by a hysterope under my care. The predominant peculiarity of an hysteric anomaly of the visual field is, that while in every other disease (except hysteria) where peripheral limitations occur, the color field is affected *pari passu* or in a greater proportion than the field for white. In non-hysteric diseases perception of color is often entirely lost, and yet fairly large areas susceptible to visual sensation from a white disc remain. In hysteric amblyopia the field for colors is of greater extent or is less affected proportionately than the field for white objects, *just the reverse of that which obtains in other nervous affections*. Even where the field for white is still the largest it can usually be shown (when there is *any* perimetric defect) that the visual field for red is larger than that for blue, and measurements for these colors should always be made in doubtful cases. One of the best examples of this reversal of the color field occurred in the case of a young lady, aged 17, in delicate health, who began to complain of her eyes. She then noticed that she could not see well in the distance or read ordinary print with the right eye. There were no fundus changes patient was distinctly hysteric had attacks of weeping without apparent cause pharyngeal anesthesia, lump in her throat, etc. She had spasm of accommodation, was able to read only coarse print and that at from 6 to 10 cm in front of the eye. She could not read fine print at any distance. I wish you would especially notice that her field for red is larger than that for white.

It must be remembered, that even where the patient does not complain of visual disturbances quite marked defects of indirect vision may be present. If these do not proclaim themselves at once they may be developed by fatigue of the retina. The patient is asked to look steadily for a couple of minutes at a near object and then the field for red and green should be mapped out, followed by that for white, and vice versa. The amblyopia may be so marked that the field for white and colors is reduced to the vanishing point, a condition of affairs which it is not improper to regard as an anesthesia of the perceptive elements of the retina and in correspondence with the loss or perversion of sensation exhibited by the skin and mucous membranes in other phases of the disease. In such instances it rarely happens, even where the central vision is reduced to 1/10 or 1/20 of the normal, that it prevents the patient from walking about as if he had good vision. I have now under my care a child who can not read the coarsest print at any distance, whose distant vision is reduced to finger counting at four feet and whose color-field and the area for white measure about 5 degrees, and yet to all outward appearances she has good eyesight, that is, she does not stumble over small articles of furniture placed in her path and her parents have difficulty in believing that her vision is defective.

My principal reason for referring to these defects in the visual field, so well known to all of you, is to insist upon a certain form of examination. Hysteria is essentially a fatigue neurosis and in the use of a subjective test like the perimeter one may easily obtain evidence that is quite misleading. In other words, mapping out the limits of the field of vision in a hysterope requires more time and patience than is generally given to it. In my opinion, all uncomplicated cases of hysteric defect show a concentric contraction and a fairly uniform boundary of the visual field. In the case whose field I show you there were, when it was first measured, several apparently reentrant angles, but these disappeared when the patient was allowed to close her eyes and rest for an instant every thirty seconds during the examination. I do not think that hand perimeters, or objects simply held in front of the face, should be used in examining hysteric patients. A stationary perimeter, accurately adjusted should always be employed and the suspected hysterope should remove the chin from the rest and close the eyes frequently during the examination. Moreover, only one eye should be examined at a sitting and control tests must be repeatedly made. I have often had an opportunity to observe the necessity for taking these precautions, and am convinced that improper conclusions may readily be drawn from the usual method of examination.

MONOCULAR DIPLOPIA OR POLYOPIA

is a curious hysteric phenomenon, probably the result of ciliary spasm. When care is taken not to suggest it to the patient, it may be developed in many hysteropes. I say developed, because, like defects in the field of vision, the patient is usually unconscious of the double vision, as such. It commonly presents itself to him or her as part of the visual defect and the manner in which the examination is carried out is of great importance. A test should be made in both a lighted and darkened room. In the former, one eye being covered, a white match is held vertically three or four inches in front of the uncovered eye. As it is slowly moved from its first position to a point three or four feet away, the patient is asked how many matches he sees. In most cases the match will present a double image when held quite near the face, the images approach each other and become confused as they are removed, to again separate more and more until the meter distance is reached. The match is again, from this point, gradually brought close to the eye when the same phenomena, but in reverse order, will be manifest. The second eye is similarly examined and, finally, the room is darkened and a further (control) test is made with a small candle flame. Sometimes three or more images (polyopia) are observed and it is usually possible to exclude one or more of these by interposing a card, so as to cover various segments of pupillary area during examination.

A few words about *pupillary anomalies* in hysteric subjects, because there is much confusion on this point. As a rule, when either or both pupils are unusually contracted or unusually expanded the ordinary reflexes are preserved, that is, they *contract* when light is thrown upon them and when suddenly asked to fix a near object, and they expand when light is withdrawn or when the patient is told to gaze into the far distance. This is, or ought to be, a very simple matter, but in cases of hysteric amblyopia some care should be observed in making the examinations. The patient should be seated facing a half-lighted window, the unclosed eyes are completely covered with a black cloth and he is told to look, and to continue to look, as if gazing upon a distant object which has been previously pointed out to him. In thirty seconds the cover should be suddenly removed and the contractions of the pupils, or its absence, noted. The reflex contraction of the pupils for convergence or accommodation should be tested in a light as dim as is consistent with the observer's ability to see the patient's pupils. Having been told to look at an object across the room for half a minute he is now asked to quickly fix the end of the finger held four inches from the patient's face. By means of these simple but effective devices one may often avoid the mistake of concluding that he has to deal with a pupil that does not respond to the reflexes mentioned.

I need not remind you that in hysteric amblyopia we frequently find *macropsia* and *micropsia*. Usually the patient complains of this strange symptom, probably due to irregular contracture of the ciliary muscle, but it is often worth while to test for it. A long, lighted candle is held before each eye of the patient at distances of one, four and ten feet, and he is asked whether it gets longer or smaller in size. Notes are made of his answer and the experiment repeated in a day or two.

A very common and, in my opinion, characteristic eye sign in hysteria is spasm of the orbicularis, the so called blepharospasm. When this is unilateral and accompanied by photophobia, or spasm of accommodation, it is almost invariably hysteric, and I believe that the majority of the spasms of the orbicularis are of this character, whether in the form of blinking or constant winking of the eyes, or where the spasm is much more marked and involves the facial muscle

HYSTERIA IN CHILDREN

Presented to the Section on Neurology and Medical Jurisprudence, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY J. G. BILLER, M.D.

CHEROKEE, IOWA.

Hysteria is recognized as well worthy of our deepest study and best thought, by those most familiar with it. Notwithstanding this fact, and the volumes that have been written about it, we must acknowledge that in many ways we are wofully ignorant regarding it. We all, probably, feel at times as though, if there were anything which we have not found out by practical experience pertaining to this disorder, we are perfectly willing to remain uninformed.

No matter how willing we may be to call it quits, our omnipresent foe (hysteria) never will consent to that; and by appearing in new phases and new forms, as well as new combinations, forces us to learn more and more regarding it. The more we know of it the less liable we are to use some such an expression as, "Oh! it is nothing but hysteria, and does not amount to anything!" No one would want to say that of any other disease which causes so much suffering and unhappiness, and destroys the pleasures and comforts of as many homes as does hysteria. The temptation thus to speak of it is because we often feel that if the patients would, they could, control themselves, and we back up our ideas with the fact that some simple but disagreeable treatment has often caused the entire disappearance of the symptoms, and for this reason it is thought that if very much were the matter the result would have been different. These brilliant and dashing flank movements are not always successful, and we have to settle down to a regular siege, from which we often withdraw defeated, and too often our defeat is caused by our treating our foe with contempt, the patient becomes dissatisfied and passes, frequently, into the hands of some quack or charlatan, who thrives by accidentally—and probably unconsciously—knowing how to take advantage of some of the tricks of this powerful but susceptible enemy of the human family. Every physician, after having hours, days and weeks of his time taken up with hysterical patients, must oftentimes ask himself "Where did all this host of hysterical men and women come from?" The answer to the question is "From the mis-born, and mis raised boys and girls of the past generation, and the children of the same class in the present generation are hurrying forward to recruit the ranks." I believe a hysterical woman can oftener be cured before she is fifteen years old than after, and it is for this reason that I wish to call your attention to hysteria in children.

This subject, as far as treatment can go, may be divided, primarily, into two classes: the first, those cases which never have hysteria till after puberty, but whose physiologic and psychologic development have been such as to leave the seeds well planted in a soil that has been carefully fertilized for their maturing. This would hardly be called hysteria in childhood, but the principal damage is done then, and that is the time when proper treatment should have been applied.

In the second division, we have the disease fully developed during childhood. It is often surprising to note what apparently slight suggestions will develop a hysterical attack in a young child. I remember a boy 3 years of age, who, upon getting up in the

---

The Phonendoscope as an Ear Trumpet.—Surprising results have been obtained with deaf subjects, especially in reading aloud to them, by removing the external rubber plate of a phonendoscope, and speaking directly into the apparatus, as into a phonograph, with the tubes in the deaf person's ears.

morning, a week or so after having seen a man who was paralyzed in one leg go by a few times, said his leg was no good, and he could not use it and did not careful examination was made, and nothing abnormal discovered except that he would not use that leg, he dragged it around all day, but that night, after he was put to bed, his father went in to play with him, and in the excitement of the play his paralysis disappeared, and he seemed never to think of it again This was a child of very active imagination, and his mind had undoubtedly been impressed until he was unable to move his leg

I have since then had two cases of partial paraplegia of hysterical origin in children They were sisters, and of quite dull and heavy minds, whose imaginations were slow to be excited, and when the result was produced, it was just as slow and tedious to overcome The father of these children had died of tubercular trouble, which started in the back, and one of his legs became nearly useless from sciatic neuritis The children, after the father's death, were left in the mother's charge, she unwisely had a great deal to say about the father's sickness, and especially about his back and the inability to use his legs The children were fond of sweet food and were allowed to indulge in cake, pie, etc , in fact, this was about their whole diet The living room was lighted by two small windows which were shaded by porches, and was heated in winter by a hard coal burner which was not much smaller than the room, the children's health was carefully watched by the mother, every little pain or nervousness was inquired after and examined into The elder of these two girls (who were the youngest of a large family) had a spinal curvature, which became tender and painful, a short time elapsed before a cast was applied, and during this period she suddenly became unable to move the legs, and when put on her feet would tumble over if not held up If held up for a little while she could partially stand by rising on her toes Reflexes and sensation were normal, and after the application of a well-fitting plaster cast the legs became all right

About a year later, the younger child, then about eight years old, was brought to see me for severe pain in the head, her temperature was above normal, pulse rapid, this continued for several months, and then began to improve, but all at once the legs became useless, she would not stand on them, and part of the time could not move them Reflexes were normal, there was some pain in the crural nerves, otherwise sensations were normal Various kinds and methods of treatment having been tried without success, galvanism was used for two months At the end of this time she began to improve, and was soon able to be up and around, in a few weeks more she seemed as well as usual She remained well for a year, when she had a slight tonsillitis, and before she was relieved of this her legs were again paralyzed The battery was resorted to, and in a few weeks it had the desired result, although, to the best of my belief, no current came from the battery No 2 had hardly got her legs to work before No 1 took cold and had paralyzed legs the battery was still in the same condition, and it took six weeks to get the girl around

This last attack was about a year ago I have urged a better diet and more light in the living room and no conversation about sickness or sick people but it is hard to convince the mother that anything but inheritance has aught to do with the sickness

Paralytic hysteria, as represented by the above cases, is not so common as some of the psychic forms, but it is so marked that it attracts attention at once, while the latter often does not attract sufficient attention to be diagnosed as hysteria I believe some of the peculiar fears of childhood are often manifestations of hysteria I knew a little boy who would scream and cry so that he had to be taken from the room if any one began singing or playing the organ, this child afterward developed very marked hysterical symptoms

Night terrors are undoubtedly, at times, of hysterical origin, for instance, a child three or four years of age, awoke one night screaming, and said the rats were after him, the next morning he did not want to eat breakfast in the dining-room for fear of the rats This kept on night after night, and soon his naps in the day time were troubled with these terrors, and it was almost impossible to do any thing with him for hours at a time, regulation of diet, amusement and medical treatment, were all tried without benefit The condition was carefully explained to the mother, who was advised to make him control himself That afternoon he had a nap, and awoke the same as usual with the wild cry of rats, he would not sit on a chair or stay in bed or even be quiet in his mother's arms No man with delirium tremens ever had greater fear of snakes than that poor child had of rats, the mother told him in a very decided tone that he would be whipped if he did not stop, and then, as he did not mind, he was spanked This forced him to control himself for a few minutes, then he began again, and the spanking was repeated This had to be done two or three times, but finally the child was forced to control himself, and was never troubled that way again This may seem cruel treatment, but it became necessary, in some way, to force the child to exercise sufficient will-power to overcome his excessive imagination The boy several times since has shown marked symptoms of hysteria, but owing to the care he has had has completely outgrown them

I do not wish you to understand me as advocating whipping as a cure for hysteria, but in these pschyical forms, the child must be brought, in some way, to control itself and taught to continue this, and there is no question but what fear forces not only children but grown people as well to keep their imagination and desires well in hand The cases which require punishment are, I believe, rare, but all these unfortunate children should have a strong hand to help guide and direct their imaginations

One of the best instructors in self-government is the association of the child with other children, our public school life is valuable for that if for no other reason, there is no question but that children are often abused and imposed upon, still they soon learn that they can get along better if they behave themselves, and that if they wish to enjoy their play they must be agreeable to their playfellows This is an excellent discipline, although it may occasionally make the parents a little angry when they think their child has been used unjustly—as it often is—but we must all expect to suffer some for the public good The rough plays that bring home torn clothes and bruised bodies and limbs are not to be looked down upon It is the freedom of the boy to indulge in any sort of physical recreation that his desires may dictate that has much to do with making his sex less liable to hysteria than the sex of his less fortunate sister The boy, as soon as he is old enough to be around, is dressed so that he can run, jump or turn heels over head, in fact, his movements are not interfered with in any way, either by dress or custom, but how is it with his sister? Whatever of liberty there is left after the method of dressing is taken from her by custom and the fear of being considered immodest I think the little girl was right, who, when reproved for turning heels over head in the front yard, said, "if people did not want to see her, they must not go by when she was turning heels over head" She had the true sense of woman's rights—the right to be healthy and enjoy health in physical recreation

Children should be well fed, and these neurotic children, as a rule, are poor eaters, both in quality and quantity They should be confined to plain, nourishing food, and then forced to eat it People often tell us they cannot get their children to eat, and are surprised when you insist upon their being made to eat, but I have had the pleasure of seeing several of these rapidly improve under judicious feeding One case I will briefly describe She was a delicate, nervous little girl, who was thin and anemic, unable to sleep at night because of nervousness She wanted no breakfast, unless it were a cracker or a cookie, scarcely any dinner excepting dessert, but at supper she generally did eat a little better She was absolutely forced to eat a large dish of oatmeal and milk, without sugar, each morning, a dinner of bread and butter, potatoes and eggs or meat, and drink a glass of milk, no dessert, for supper, she had a dish of oatmeal and milk, bread and butter and some kind of sauce, generally stewed fruit, either dried or fresh Besides this diet she was allowed plenty of fruit, and was sent early to bed She has been on this stuffing treatment for nearly two years, and is now strong, does her school work easily and well, never has headache, sleeps well, except that she gets up early in the morning This child's poor health was attributed to going to school, as is done in a number of cases, and the children are kept out of school I think there is no question but that their school work is too much for them in their physical condition, but too often this condition is caused more by the improper home life than the school life

Neurotic children suffer greatly from competitive examinations at school, and from the extra work that is often imposed upon them in preparing for school entertainments—especially in preparing for public recitations I knew one young girl of 13 or 14 years of age who was standing her school work well till she was selected for an important part in some special exercise She was impressed with the importance of her part, and from the careful drilling she got she became frightened and nervous, and finally ended by going into a hysterical faint after one of these drills It was a year and a half before she was able to go to school again, and she had during that time vertigo and other hysterical manifestations At the end of this period she started to school, but she has never been allowed to do any but regular work, which she has accomplished with ease

I have not referred to the medicinal treatment, for it has been quite thoroughly impressed on my mind that drugs are seldom indicated, and their value is questionable The price of healthy children is the same as that of Liberty—Eternal Vigilance—and unless parents and physicians are willing to pay that price, we can not expect to avoid hysteria and many of its relatives

ORIFICIAL IRRITATION IN RELATION TO NEURAL DISTURBANCES

Presented to the Section on Neurology and Medical Jurisprudence at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo June 7 10 1898

BY GEO V I BROWN, M D, D D S, C M
DEAN AND PROFESSOR OF ORAL SURGERY, DENTAL DEPARTMENT MILWAUKEE MEDICAL COLLEGE
MILWAUKEE, WIS

It would seem, upon consideration, that many operations brought forward by the gynecologists during the last few years for relief of so-called reflex pains and other nervous disorders, particularly neuralgia and migrainoid headaches, have not given the relief that was promised for them The same is undoubtedly true to a considerable extent in regard to the rectal surgeon's efforts, and notwithstanding the fact that deviating septa and hypertrophied turbinates have freely given off their offending portions, there still remain many who suffer constantly without a hope of relief, and in directing your attention into a new channel with regard to etiology and treatment of these conditions, I would urge the fact that, with a high nervous organization and free distribution of nerve-supply quite as complex as that of the other orifices referred to, the normal mouth has thirty-two teeth as additional predisposing factors, each with its own separate nerve fibers from the wide-spreading carrier of sensation—the trigeminus In addition to these connections each root is surrounded by a highly vascular peridental membrane, also in close connection with the blood and nerve supply, making it not unreasonable to suppose that all these taken together would offer a very frequent source of irritation Considering also the fact that through caries the pulps of these teeth and the nerve elements they contain are often exposed directly to external irritants, the etiologic factors, particularly with affections within the range of the direct nerve-supply through which they carry the sensation, ought in a large number of cases to be found to be within the oral cavity That this is often true without being suspected, through misleading symptoms, the trouble being treated as having its origin in some other of the orifices, will be shown, I think, by the cases described later

Literature upon the subject of this and kindred disorders is very vague We find neurasthenia, anemia and numerous other emias, held in a general way to be reponsible, and the recommended treatment beyond certain limitations, also becomes very general, depending chiefly upon general constitutional care, which is all very well so far as it goes, but as a rule the patients suffer on just the same It is evident to those sufficiently interested to be more than casual observers that in close study of the symptomatology of those affections, with a view to discovering certain definite causes of irritation and the mode of procedure best calculated in each particular case to remove the etiologic factors, lies hope of relief During the last few years my efforts have been directed to the study of certain peculiar forms of trifacial irritation, particularly one form of which little or nothing in the way of description seems to be extant in the literature of the subject

Without attempting to go into a general or even a partially detailed description of the various possible irritations from within the oral cavity, I desire to treat of what I have found to be a very common associate of neural disorders It is a noticeable fact that in the mouths of all those so affected, wherever the natural teeth remain, their occlusal surfaces show that constant grinding and rubbing has abraded them, through the extreme pressure brought to bear during the paroxysms—if the pain be paroxysmal occurring in an intense nervous state—the result of hours of painful suffering or other like conditions This has frequent mention by writers as noticeable among those who suffer from such disorders, but in no instance do I find where an author has thought fit to reverse the order of things and make the habit of the jaws, which is responsible for this condition, one of the etiologic factors in bringing about the disease, rather than a result, as it is generally held to be Last year, before the Section of Stomatology, I described this hyperkinetic condition of the muscles of mastication and explained how irritation of the brain-centers governing these muscles, whether as a symptom of other neural disturbance or vice versa, would produce the same result, namely, an irritation of the peridental membrane surrounding the roots of the teeth, and how, through their apical formina, this irritation might be communicated to the many branches of the nerve, after which, as is well understood, the point at which that result expressed itself in pain, muscular spasm, tenderness of neuritis, hyperesthesia, anesthesia, or whatever the effect might be, could be reflected anywhere along the path of the nerve among its associates Certain forms of this peridental inflammation and the resulting pain are quite familiar to dentists, but that there was grave trouble frequently caused by other forms of this affection, with which neither they nor physicians were commonly familiar, I have long been satisfied, and in the paper referred to I described a number of cases of extremely aggravated pain in the head and face, which were cured, or to a considerable extent relieved, at my hands, by the simple method of grinding the crowns of the particular teeth affected in such a manner that they could no longer be brought together Since the writing of that paper, however, and during the last few months, through my connection with Trinity Hospital in Milwaukee, another form of this particular trouble has come to my notice in several cases, with symptoms such as are commonly ascribed to reflex expressions of uterine diseases, and it is to these that I purpose calling your attention

In order that something may be understood of the manner of the operation of the jaws, which makes this possible, a little description of their anatomic relations, with particular reference to the development of this idea seems to be in order Through the pterygoids a lateral grinding motion of the jaw of man takes place, which if pursued at night is easily noticed, and usually attention is called to it If, however, the masseter and temporal muscles are called into unusual activity, the result is that the jaws are pressed firmly and tightly together, with a force varying in individuals from 200 to 270 pounds With the jaws closed normally and the occlusion perfect, this force would be comparatively equally divided among the whole number of teeth If, however, as usually happens in these cases, the jaws be shifted a little to one side or slightly forward or backward, then certain portions of individual teeth are brought together, and they alone must bear this tremendous force Ordinarily the membrane surrounding the root is capable of withstanding a considerable amount of pressure for a considerable length of time But by the continued application of this pressure, especially when weakened by other more general conditions, as of circulation or otherwise, this power of resistance becomes impaired and then one of two things must result—either a local disturbance made manifest by elongation of the tooth and soreness to pressure, a not generally serious affection, accompanied sometimes by localized pain, usually comparatively easily remedied, or as I have believed, a direct communication of this irritation to the larger nerve trunks, to be by them carried to other parts It has been recently proven that the old idea —as given in Gray's and other anatomies—of a direct communication of artery vein and nerve, from the apical foramen to the main trunk of the nerve, passing along the jaw, is generally, if not always, incorrect, and that there is a more complex nervous connection with nerve filaments extending directly from this membrane to the main nerve supply, and this scientific histologic demonstration is directly in line with my own clinical observation, because it explains at once what I believe I have demonstrated to be true that any or all the nervous symptoms generally recognized can be the direct result of peripheral irritation through this peridental membrane We are all familiar with the much-written and widely understood neural disturbances consequent upon eye strain, but whoever heard of neurasthenia hysteria or neuralgia resulting from jaw-strain, and yet this is exactly what does occur If the use of certain muscles and the straining of those muscles can cause neurotic symptoms through irritation of the optic nerve supply, why can not the continued application of hundreds of pounds of force directly to certain other branches of the nerve through which sensation is transmitted do so equally with the other part This theoretic explanation is, I believe, borne out quite fully by the following cases which, for example, I desire to describe

Case 1 —Mrs ——— complained of a general debility, loss of strength and poor circulation, and suffered intense pain at rather short intervals, which finally became shorter until the pain was almost continuous between her eyes at the base of the brain and in the vicinity of the ear upon the left side Three operations by gynecologists, who had mistaken her symptoms for reflex pain due to some womb disorder, left her rather worse than better The treatment of certain inflamed conditions of the pulps of her teeth and maxillary sinus, and a correction by grinding the surfaces of tooth crowns, giving evidence of receiving rather more than their share of the wear and tear has given her, at least for the few months past since the operation, complete relief

Case 2 —Mrs ———, a very great sufferer, pain in eyes, back of the head, which during severe paroxysms was severely felt also in the back arms and leg, had become almost a hopeless neurasthenic The birth of the last of her five children was coincident with the onset of the severe symptoms and naturally led to treatment for laceration and endometritis, but without result The abraded crowns of several teeth and the set expression during pain facilitated diagnosis, the treatment applied was to grind the occlusal surfaces of the affected teeth until they could not meet in occlusion, and treatment of pulps of the teeth that were irritated resulting in complete relief from pain and a generally improved condition

Two cases were reported in the paper before referred to one in which hyperesthesia of the lower lip and chin was instantly relieved by the extraction of a bicuspid tooth of a woman who had been treated, as she said, "for falling of the womb' and another, a girl about 17 years old, whose extreme suffering for about eighteen months was finally relieved by grinding down certain teeth, irritated by grinding at night, found to be the probable result of sexual excitement as shown by a history of the case

Many similar instances might be recited in which the symptoms of pathologic oral conditions have been confused with those of the eye, ear, nose and rectum, as well as of the vagina and uterus, but the present purpose is chiefly to call attention to the fact that this habit of the muscles of the jaws is of extremely common occurrence—in fact, nearly always an active feature of nervous states—for if caused, as sometimes happens, by overstimulus of the centers controlling those muscles, the result of some etiologic excitement elsewhere, then the effect is simply to increase the severity of symptoms, on the other hand, it may be the irritant, and solely responsible, but in either case the simple attention necessary to correction of the difficulty is a matter of first necessity in the treatment of a large majority of sufferers from functional and other disorders of the nervous system

---

NERVOUSNESS AN ELEMENT IN HYPERPYREXIA

Presented to the Section on Neurology and Medical Jurisprudence at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo, June 7-10 1898

BY C C HERSMAN, M D

Lecturer on Mental and Nervous Diseases, Western University of Pennsylvania, Medical Department Physician to St Francis Hospital, Insane Department, Alienist and Neurologist, South Side Hospital, Pittsburg

PITTSBURG, PA

Temperature, from Hippocrates down, has been recognized as a factor in disease In the present paper the topic is to be discussed with reference to the explosive (nerve storm-like) and sudden elevation of temperature under certain mental impressions or conditions

Musser attributes the stability of temperature to the central regulating apparatus, called the thermotoxic apparatus This aggregation of forces is under the control of the nervous system, either through the motor or special nerves which pass with them to and from definite centers in the brain, called heat centers He claims that the elevation of temperature is due to the increased disintegration of nitrogenous tissue It has also been said that the high range is caused by the taking in of more poison than is gotten rid of, or, to give bacteriologic zest to the expression, the microbes are in competition with the corpuscles of the blood

High temperatures are not so dangerous, or so uniformly fatal, as low Da Costa records a recovery from a temperature of 110 F in the axilla, following cerebral rheumatism Teal reports a case of recovery from a spinal injury with a range of temperature of 112 to 114 F, which continued for days Dr J B Murdoch of Pittsburg, formerly Dean of the Medical Department of the Western University of Pennsylvania, admitted a case to the Western Pennslyvania Hospital Dec 13, 1893, whose temperature on the eighth, ninth, tenth and eleventh days was respectively 112, 114 8, 119 and 120 F His patient had hysteric symptoms and he, with others of the staff who saw the case, decided that the hysteria was the cause of the high temperature The cause of these high temperatures is mere conjecture The increased disintegration of nitrogenous tissue and the microbes in competition with the blood corpuscles can not be relied on

Experiments upon dogs have shown that to irritate certain centers of the brain will control temperature, while destruction of the center will cause a high rise I have thought that a hyperesthetic condition of the heat center might answer for the cause, but according to the irritation theory, nothing short of a paralysis of the center could cause the rise, while the hyperesthesia would control it In the following cases the last thing mentioned could be the only plausible one to me

Case 1 —K R, aged 21, American, nurse Disease diagnosed as spinal meningitis Admitted to South Side Hospital Dec 4, 1897 Family history negative Personal history, typhoid two or three years prior During the course of the disease she complained severely of a pain in back of head Delirium marked Three months ago confined to bed with severe pain around cecum and caput coli, with some inflation No elevation of temperature, but nervous, with inclination to hysteric symptoms

Present trouble began with severe headache, with boring pain in back of neck, followed by numerous chills and muscles of back of neck rigid, with head slightly drawn back, tenderness along spine and mild delirium Retention of urine At times evening temperature 107 F, but was promptly reduced in a very few minutes with ice sponge Antipyretics had little effect Pulse at times very weak On the seventh day the temperature was highest, 118 F

At times the temperature would drop from 110 F to normal in a very few (twenty) minutes without interference but mostly the sponge bath was resorted to with very prompt effect Usually when she had the high temperatures she had marked hysteric symptoms The fever always abated most rapidly when treated by those in whom she had most faith and liked best A visit from friends would provoke an attack, seemingly, to me, to show how sick she was

My diagnosis differed from those who had preceded me, as I could see nothing but a very exaggerated nervous condition attended by hyperpyrexia and hysteric symptoms At the end of fifteen days she was sent home

Case 2 —Lizzie N, aged 29, Irish, domestic In United States eight years Admitted to South Side Hospital of Pittsburg, Dec 10, 1897, her disease having been diagnosed articular rheumatism of one week's duration, which was ushered in by a chill

On admission temperature 99 F, pulse 102, respiration 24 Joints sore and very tender, especially the knees On the second day after admission the temperature became normal On the fourth day 104 F, eighth and ninth days normal On the thirteenth day normal, but on the fourteenth it rose to 106 2, pulse 80 On the eighteenth day 110 9, pulse 80, twenty third day 11 30 AM, 110, but at 2 30 P M had dropped to 99, pulse 80 At various times from the eighteenth to the twenty third day the thermometer registered 110

On the thirty fourth day of the disease the register was 112 On the thirty fifth day at 11 30 A M I took her temperature under the tongue at 116 F, with a pulse of 80 and a cool skin, and twenty minutes after I left the ward it was registered at 102 by another thermometer On the forty second day after admission the thermometer registered 118 4 Her temperature for the past few days ran along from 105 to 108, occasionally down as low as 104, and once to 103 This continued up to the sixty ninth day, when the temperature dropped to 99, following a chill, but soon to return to its old haunts, 108 to 110 This high range continued until the eighty sixth day, when at 3 20 A M it registered 98, but again went back to 107 4, which continued until the ninety third day, when she became dissatisfied and asked permission to leave the hospital, which was granted

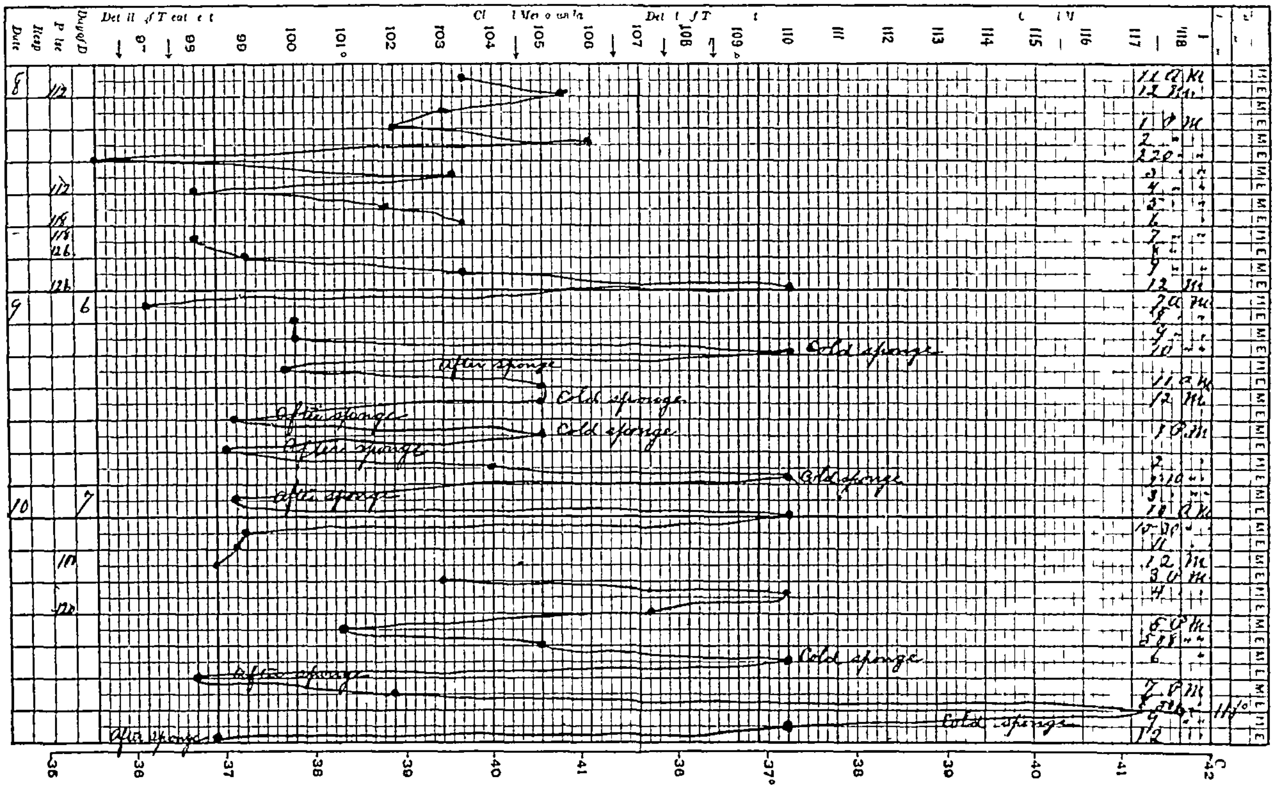
She left with a temperature of 104 8 and walked with slight assistance to the street-cars, three squares away, but on the evening of the same day she returned slightly intoxicated and asked to be readmitted Her temperature was then 97 4 On the second day after readmission her temperature was 108, on the third 110, on the fifth 112 4, on the sixth, A M 97, but at 1 20 P M was again at 111 2, on the seventh 97, but on the eighth was 108, at which time she was sent out of the hospital, 101 days after her first admission

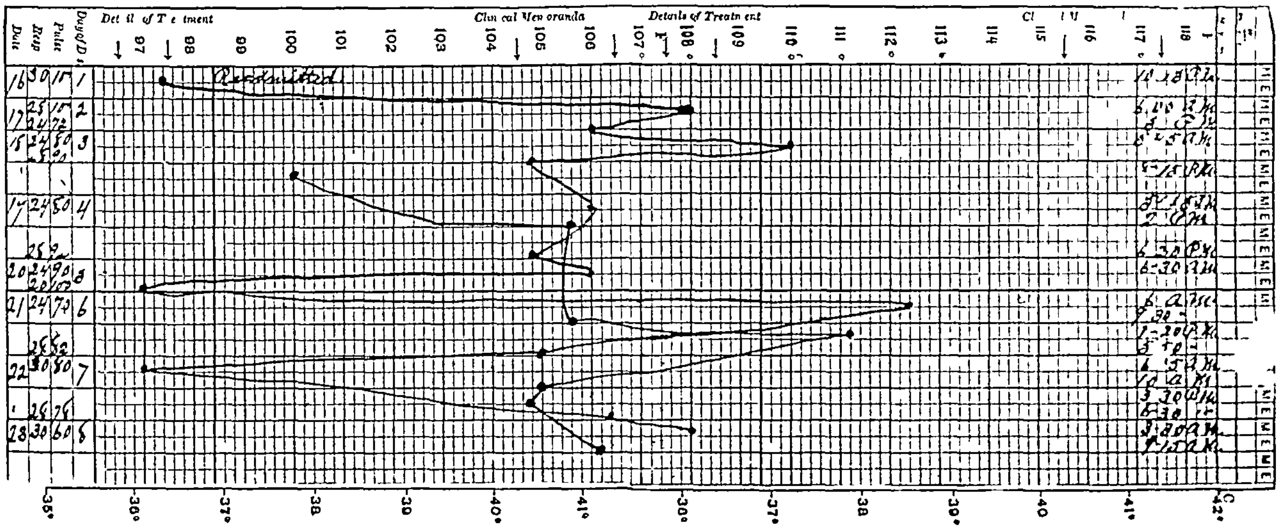
She went to the home of her former employer, where she remained for about ten days, going about the house, and occasionally going out On attempting to alight from a street car she broke her ankle and was sent to a hospital Her improvement has been continuous and her temperature has never been above 99 4 F Usually it has been normal In the first hospital her rest at night was very much broken Sometimes she would sleep all night, at others lie awake until 3 or 4 o'clock in the morning If the interne not in attendance on her would administer her hypnotic she would be likely to lie awake all night watching for "her doctor," to find out whether the medicine was correct Seemingly, the hypnotic administered by the wrong person destroyed the hypnosis If she were piqued or worried the temperature would rise At times when she was perfectly quiet, skin cool, pulse normal (or almost so), her temperature would be highest These temperatures were taken with both fever and bath thermometers, under the tongue, in the axilla and in the rectum

During this period of hyperpyrexia she could sit up in bed, at times on a chair, and she always expressed herself as relieved and rested afterward At times she was led about the room which seemed to have more effect on her high temperature than drugs

Like all the Celtic race, she was very much afraid of dying, and when most agitated her temperature was highest After a talk with her, an examination, or a pretense to such, and an assurance that she was better, her temperature would usually lower One nurse she disliked, and her presence would aggravate her fever

Query What was the disease in the two cases reported? My diagnosis was hysteric hyperpyrexia The tender joints in the one, and the tender spine in the other, were hysteric symptoms, rather than rheumatic or meningitic The emotional centers were so overburdened or exaggerated that the heat centers were completely overpowered (paralyzed), the radiation possibly interfered with consequently the heat storage Specimen sections of temperature chart give an idea of extreme fall and rise





DISCORDANT SOUNDS A MENACE TO NERVES

Presented to the Section on Neurology and Medical Jurisprudence at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY JOSEPH A GUTHRIE, M D ,
LATE SURGEON U S N
MEMBER OF THE ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES, ETC

The reason for selecting this subject is because of a number of inquiries made to me personally, regarding the why and the wherefores relative to it, and as in some instances I was at a loss for ready answer, it behooved me to place my theme in the hands of those whose learning and experience I am sure will help me out of a quandary, rather than turn a critical eye upon it, and so, by making public their demands my inquisitors may benefit

It is needless to record statistics in speaking of this every day evil whereby our tympani are assailed, and which by becoming inured deceive us into believing there is no particular harm done Even though statistics were brought forth, what objections might arise to the statement "noises create a disturbance of the nervous elements to the degree that they are vouched a place in the category of causations of disease" Therefore, it is the object of this paper to reason from pure observation, and attempt a clear analysis for the judgment of the profession, as to whether the above statement is worthy of consideration, and embody in its entirety a question answerable by that same honorable body Then let us lay down for consideration some instances in our experience certain mental records which have sunken into the fertile lands of our memory, making their impressions accordingly To begin, shall we admit that when a healthy condition of the nerves exists, the greater amount of nervous shock we bear with impunity, but by frequent repetitions the less able are we to withstand the resulting jar

We have acquired from nations now fallen into decay and almost, if not entirely, obliterated, an intuitive knowledge of many of our present customs, not to mention the suggestions and realizations of innumerable arts, inventions and sciences, so useful to mankind These customs we adapt unwittingly, as new wants present Relative to this instinctive tact of man, should we go further—beyond the human—is it not observed in a few peculiarities, that even the lower animals lend their aid in suggesting means to us? Call to mind the quail when disturbed in its foraging by the suddeness of flight by the noise of its wings in rapid vibration, it will disconcert the disturbers If the enemy is startled the birds escape, some of us in our maiden attempts afield may have been vividly reminded of this, if we forgot to use our fowling piece before the game was beyond gunshot Prior to long-distance warfare a pretty successful scheme (shall I call it bluff) was in vogue among the Chinese, which upon the superstitious children of ignorance, played a prominent part in enhancing China's length and breadth These people calculate upon fright as a means of conquest, thereby saving the lives of friends and foes alike, at the same time gaining the end in view A bloated, elaborately painted wind-dragon, then may account for Chinese supremacy and their populous empire The tiger roars, so it is said by some, with his leap upon the exquisitely high-strung fawn, thus gaining a moment's hesitation, and before the prey is in motion his talons grip its tender flesh

For no rhyme or reason, in these modern days, with every new invention there accompanies a new noise, so to speak The snorting, bellowing locomotive engine replaces the musical post-chaise, the screeching, whistling steamer has supplanted the galley and the sailing craft, teeming with romance And with the explosive fire-arm comes an innovation upon the bow and arrow The ancients may not have been so cleanly, but they certainly were less noisy I was told when at Gibraltar that during target practice and drill with the great guns, the loss in frangible property amounts to not a little sum, and I may instance a dozen other experiences wherein noise—and not a woman—was at the bottom of misfortune I once knew an octogenarian farmer, who, when asked why he did not take a lantern in traveling over lonely roads at night, replied that he carried a pistol, which would give him light if needs be in case of attack, he evidently did not wish to attract attention to himself unless waylaid, and then he had light and sound stowed away ever ready In certain land-locked harbors I have heard the inhabitants complaining of tugs and other noisy boats blowing off their whistles, especially those known as calliopes The would be waggishness, or to-what-purpose desire of these tug captains deserves a compensation suited to the perpetrator Have not the cartoonists discovered the tired and irritated visitor from the provinces, racking his brains in the uproarous city, unable to collect his faculties, and has the father, nightshirted and capped, marching the colicy infant in the small hours of the night, escaped this artist's humorous vein? Little mirth it would be if the tables were turned, were it possible to do so All these things call to light the necessity for a scientific investigation of the question of useless noise

In a few cities it has been proposed passing an ordinance against the ringing of church bells—this may to some disturb the "day of rest"—but why not include in this an ordinance for week days the shouting of street hawkers, the clanging of other varieties of bells, the steam whistle of the factory, and last but not least, our young vender of the daily press, with his shrill tenor announcing the never-ceasing "extra!" How much better is the silent signal, both in war and in peace, take the popular foot-ball game and we find that the teams under better control are those who have mastered the silent signals of command One reason the modern war vessel is so deadly, may be said to be because it is absolutely as accurate as a floating battery can be, and is not the cause of this accuracy due in great measure to the silent commands sent from the conning-tower by the captain to each of his subordinates, shut off from him and each other by walls of steel? When an order is indicated upon a dial manipulated by electric transmission one receives the same in a tranquil state of mind but if the order is shouted at him by one, two, three or more in rapid succession (as of yore), then there is excuse for confusion in carrying out commands In this treatise a good deal is left to the imagination, and my theme, I must admit, is undeveloped, so I beg much leniency for my awkward manner of launching it forth on a scientific basis, and ask those interested most to consider it as merely an advance guard for a subject worthy better forces

---

MORAL INSANITY IN INEBRIETY

Presented to the Section on Neurology and Medical Jurisprudence at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY T D CROTHERS, M D
SUPERINTENDENT WALNUT LODGE HOSPITAL ETC
HARTFORD CONN

The term "moral insanity" is applied to a class of symptoms about which much difference of opinion exists Formerly this was a veritable battle-ground between metaphysicians and alienists, but latterly this has subsided and the questions now in dispute are differentiations and exact meanings of terms I shall limit my study of the subject to certain well-marked symptoms which, taken alone or associated with other symptoms, appear to have the same significance Moral insanity is marked by a low sense of right and wrong, and by conduct which does not recognize the rights of others, or duty and obligation to any one The ethical sense and consciousness of the relation to others, of truthfulness, of honesty, of respect for the good and true, for law, or for the opinions of others, is enfeebled or wanting altogether Such cases may not exhibit marked intellectual weakness and may appear to have average judgment and discrimination in the conduct of affairs, yet have no moral sense of obligation to do right and to be truthful and honest to others Such men are intriguing, deceitful, dishonest, taking advantage of every opportunity to gratify their most selfish desires irrespective of all consequences to others The higher levels of cerebral development, which are the altruistic sentiments, the capacity to recognize and adjust conduct to the general good of all, are wanting What is called character motive, purpose in life, or the morale of the man, his relations to others, are all the last formed elements of brain growth Insanity, which is confined to these psychic centers, is well established Without doubt other parts of the brain are affected, but they do not appear, except from a careful study I think it also well established that sudden changes of character are always due to changes in the organic activities of the brain centers It is asserted, and defended with many good reasons, that consciousness is an element of the brain which recognizes the higher relations of right and wrong, of duty, and all the higher psychic claims of justice and truthfulness and the relation to our fellow-man The higher this development the stronger the man, and its absence or feebleness approaches imbecility The general term "character and morale" describes this best A veritable insanity in which this part of the brain was the most seriously affected has been described over a century ago All the authorities recognize it but attach widely differing importance to its meaning

Cases like the following are not uncommon, and probably illustrate this condition more clearly than by theories A B, a physician of average ability, culture and good character, with an excellent reputation for honesty and sobriety, began gradually to be untruthful, intriguing and dishonest He made out double bills and denied payment even when his signature on receipts was shown He exaggerated his business, drove his children away from home, was cruel to his wife and tyrannical to every one under his care This increased and was not associated with any apparent intellectual changes He was not passionate or emotional, but cool, and gave no explanation for his conduct He became involved in forgery and assault, and died before the trial from some heart failure This was moral insanity in which the physical basis was not recognized

In inebriety these symptoms of moral defects and insanity are common, no matter what the conditions and standing of the person may be It seems to follow the poisoning from alcohol inevitably, and in some cases very markedly Two classes appear very prominently, one with heredity and the other apparently acquired Wherever there is a marked history of heredity, of alcoholic parents, or of neurotic degenerate ancestors, a feeble or deficient consciousness of right and wrong is found Alcohol used continuously retards growth, diminishes vitality, and prevents development Drinking parents have deficient vitality and are unable to transmit to the next generation full normal vigor The last and highest formed element of brain power—consciousness—is the first to suffer from alcohol Hence drinking parents can not have children with full normal consciousness This faculty will be wanting or very feebly developed This is the rule to which the exceptions are rare This defect may be associated with much intelligence and intellectual capacity and power to cover it up

A man prominent in the political world is in private life devoid of all sense of justice, of right and wrong, and duty to others He is untruthful and dishonest, and when his own interests are in conflict, will sacrifice any person or principle to gain his ends He is of unsound intellect, yet able to pose behind a mask of honesty often acting honestly and talking of duty, but always from the most selfish motives He is married, has a position in society, but keeps mistresses, and is open to every suggestion that promises his personal and selfish gratification His parents were wine-dealers and drinkers, both of them waiting on customers over the bar Only one child grew to manhood, and entered politics as a trade He is temperate, but a moral paralytic, or a moral maniac with capacity to conceal this condition A man who became one of the great swindlers and forgers of the day, but who was able to keep out of prison by intrigue and cunning, came from drinking parentage To his associates he is known as without any sense of duty and obligation to any one and is a literal Bedouin

That these conditions are due to inheritance is apparent from the following A boy with excessive drinking parents was taken in infancy and educated in the most careful way All the higher faculties were cultivated to an unusual degree, and he entered the church as a brilliant clergyman He was found to be untruthful in regard to himself, suspicious of others in matters of personal reputation, and grasping even up to the border of theft on many matters The collections in the church had to be kept out of sight and always suffered if they passed through his hands He became involved in spreading scandal, and seemed oblivious of the danger of such conduct, and broke up the church by his irregularities For ten years, until his death, he was in continual trouble with every church he was associated with Here the evidence was clear that he had inherited defective consciousness, which no training or surroundings could overcome

In cases where inebriety has been acquired by accident, contagion, surroundings and conditions of living, these moral insanities vary widely and are not so general, but are confined to particular things In one case excessive untruthfulness and dishonesty in all business relations was associated with sympathetic tenderness to all his associates In another, intense suspicion and doubt of the honesty of others was associated with excessive desire to be truthful Another was excessively immoral, seeking opportunities for sexual intercourse at all times, was hysterically religious and anxious for the conversion of the world Another was intriguing, secretive, treacherous and uncertain in his talk and conduct, and yet lived a moral, upright life These are almost infinite in variety and manifestation, and all show profound changes in the moral faculties The more common forms are illustrated in this case A B, a business man of good reputation and standing in the community, began to drink after a protracted illness from typhoid fever Two years later he was an

His mind continued bright and clear, but his character had changed. He was deceitful, suspicious and slanderous. He thought his sons and clerks were robbing him and that his wife was in league with them. He had his books examined by an expert and was in doubt when they were found correct. He told falsehoods about his business and family, and grew more and more egotistical about his mental capacity to reason and decide on all matters. He was harsh and tyrannical to his wife at times, lost all pride of character in the community and sense of duty to others. He was exacting to have anything done for his own interests, and oblivious of others and their feelings and tastes. As a patient, he was intensely selfish and grasping, even up to theft, was fawning and obsequious, promising everything and doing the opposite. He imagined evil of every one and told malicious stories without any foundation, then denied them. He was always reporting others as doing wrong, and supposed every one to have only the basest motives. He stopped drinking, but thought all others drank and concealed it. This man left the asylum and is yet sober after some years, but is morally insane.

In a general summary of the common symptoms following the use of alcohol, untruthfulness, or a low respect for their word, is most prominent. A man who previously took pride in the correctness of his promises and statements, will become indifferent, promise anything, make any statements, whether true or false. A man previously honest and trustworthy will be found doing dishonest things, cheating persons, taking advantage in little matters, and failing to act fairly in the interest of others. Then follows suspicion of motives and conduct, doubting the honesty and purity of persons. This deepens into delusions of intrigue and deception of others, extreme pessimism and doubt of everything, or a state of mind which may be called "combative erythesiasm" follows, in which the distress of others is pleasing. This is manifest in malicious criticism and scandal, pointing out faults and magnifying them, apparently enjoying the knowledge of the dishonesty and malice of others and the irritation which follows from the publicity which they give to it. Sexual conduct is without restraint, the ties of family and duty become less and less, intense personal selfishness to gratify every impulse at all expense follows. The taste for gambling and speculation becomes a morbid impulse, often to retrieve their waning fortunes. Recklessness in the use of money, throwing it away without motive or purpose, or extreme parsimony to hoard it, and grasping selfishness, equally unseasonable, are common. As in other insanities, exaltation of the *ego* follows, and intense confidence in themselves and their power of reasoning and ability to do anything possible is present.

Many persons who exhibit all these symptoms appear to be but little changed in other respects. They carry on business, seemingly make plans and execute them, and appear to casual observers the same. These insanities seem to concentrate into particular lines or ranges of thought. Consciousness of truthfulness may be almost entirely absent, and in other respects appear the same. Moral recognition of the higher truths of faith and trust are gone, yet he may act sensibly and be a church member. In one case an inebriate lawyer doubted the honesty of every one and thought no one was pure or had good motives, and yet he acted on what seemed the opposite. It was surroundings alone that held him, the restraints of society covered up an insanity which only needed a favorable opportunity to break out. In another case, a teacher who had drank many years, became a secret thief, purloining everything which he fancied, and when likely to be detected, restoring it in some mysterious way. He appeared and talked honestly and yet when not observed took advantage of every opportunity to appropriate anything that came in his way. A number of cases of inebriates have been reported where this kleptomaniac impulse took on certain peculiar forms. Thus one man when drinking stole bibles, another jewelry, and when discovered gave it up freely. One man stole washtubs. A woman inebriate always took aprons and towels, another man stole soap, and so on. The most unusual and unreasonable things were taken, concealed, and given up freely without any sense of the nature of the acts. One class of inebriates exhibit this insanity in malicious slander, another in extreme suspicion, another in vindictiveness to resent real or imaginary evils, another in immorality and impurity of act and thought. Many of the chronic cases exhibit all these phases in one. The oft repeated expression that "inebriety is criminality" is true in a general sense, when criminality is understood as a course of conduct in which duty, right and obligation to each other are ignored. The inebriate has physically defective senses, he is not able to adjust himself to the outside world correctly, because his knowledge of their relations is imperfect. His power of reasoning is also deranged, because the impressions from without are faulty and the integrity of the normal action of the nervous system is impaired. The coarser lesions are well recognized and can be traced in all cases. Beyond this, conduct indicates the higher moral defects and changes. Psychical changes, as loss of pride, of character, of honor, respect for the truth, of duty to others, low motives or no motives, extreme pessimism, are the first and common changes which lead up to criminal acts. The paralyzing action of alcohol is first seen on the moral brain of consciousness, in the dullness and defective workings of the higher functional activities. The changes observed when a man is under the influence of spirits, is vaguely called the removal of the restraint of reason, and dominance of the animal impulses—the brute triumphing over the real man. In reality it is palsy of the consciousness, a cutting off of some part of the higher brain, and consequent confusion of the lower brain and its workings. Impressions and their meaning are confused and obscure, the higher relation of events and conditions of life are unrecognized. It is asserted that 3 per cent of all persons born are without normal consciousness of right and wrong and their relations to others. They have retarded brain development. The part of the brain which constitutes the moral control or consciousness of the higher duties is wanting or undeveloped. Such persons are defectives, and insane in the general meaning of that word, and like dements, are incapable of normal healthy adjustment to the relations of life. When an apparently normal state of this brain function has existed and then a great abnormality follows in thought, word and conduct, disease is present. Comparison of the conduct and character of inebriates before alcohol is used and after they become habitués, brings out some startling facts that are unrecognized.

From the lowest type of a demented inebriate on one side to the moderate drinker at meals and the fashionable clubman, there is a distinct relation and chain of cause and effect The clear moral insanity of the one is traceable to the other without any sharp dividing lines The moderate drinker and clubman who proves to be the defaulter, or who is involved in conduct that is criminal, or who becomes a principal in crime, is suffering from disease differing only in degree from the degenerate inebriate tramp Moral insanity is a very prominent phase of all inebriety Its absence in any given case is always an exception to the rule A man with a high moral development, after he becomes an inebriate may retain the form and externals of his previous character He may be more emphatic in his display of some qualities, such as religion, truthfulness and duty, and yet in other matters be oblivious of all obligation and duty One such man, who prayed for inebriates and lectured on temperance, carried on an intrigue and sold his influence to the highest bidder Another man acted as an agent for the sale of stolen goods, and at the same time carried on a great reform revival, and another was engaged in gold mine swindles, while lecturing every night for temperance The moral insanity was called hypocrisy and in a legal phrase was malicious, criminal and vicious In reality it was degeneration and disease, the breaking down of one part of the brain while the others remained apparently clear In our Civil War a noted general was drunk to excess at times, previously he was noted for his hearty frankness and honesty, but was found unreliable, intriguing and failed when needed most He showed petty weaknesses and untruthfulness, with malice that was unknown before in his character He finally died a moral wreck after the war was over having become almost criminal in his thoughts and acts A clergyman became a secret inebriate and later became involved in a low intrigue and was turned out of the pulpit He was insane, his consciousness became palsied and for a time he taught ethical truth automatically The possibility of one part of the brain being affected and the rest doing normal work, and this condition being concealed, is a reality which every experience confirms The very close relation of one part of the brain with the other makes it impossible for health and disease to exist together, and yet moral insanity may be present and be concealed from general observation A study of conduct will reveal it and a comparison with previous conduct will show its growth and development The inebriate who has lost pride of character and sense of duty and obligation, truthfulness and honor, may seem to be the same in many ways for a long time, but sooner or later this moral diseased condition will spread and his whole organism show degeneration I shall conclude this brief study with the records of two cases which have occupied public attention and been the topic of bitter discussion

Case 1 —John Blank Father was a strolling actor of irregular character and an inebriate He married a woman of average ability from a good family The father died before John was born and two years later his mother married again John was brought up with great care and tenderness His later education was of the best character He was a leader of his class as a scholar and an athlete To his mother and intimates he displayed an intense selfishness, putting his interests and desires above all others, and had no consideration of the pain and distress of others He was cruel in his conduct to any one who was in his way to the achievement of any purpose or desire He finally became a lawyer and was thoroughly unscrupulous in money matters Although not miserly or avaricious as a politician he was without honor or pride of character and would stoop to anything to accomplish his purpose He married a rich woman and soon after swindled his father in law and possessed himself of a large property Then he drank and began to live a fast life, had a mistress, attended horse races Wherever he went he swindled and falsified and was feared by every one who had any dealings with him He went into stock gambling and was swindled and swindled others To his wife and children he was cruel and violent in his conduct. After a period of excessive use of spirits, he killed his wife and made no effort to conceal it, or run away On the trial his schemes for deception and fraud were revealed to the astonishment of every one Truthfulness, honor, duty, and all the qualities which go to make character were absent He was convicted, but the sentence was commuted to a life imprisonment In this case moral idiocy was inherited The higher part of the brain was undeveloped and beyond the reach of culture and education Without culture he would have early sunk to a low tramp criminal and burglar, and been a pauper degenerate, dying early With culture he became a higher grade of criminal, and yet he was unable to appreciate ethical truth or moral relations He was insane from birth, alcohol intensified and developed this condition The insanity was of the higher ethical brain, and concealed except to those who knew him intimately

Case 2 —The second case came from a good family and was normal in all his relations to others Was truthful, honest, and seemed generous and very kind After a severe attack of typhoid fever, in which he was given large quantities of spirits, he began to use alcohol daily His father died and left him in charge of a large business interest His character changed His regard for his word was lost He was suspicious of his mother and brothers, and took money out of the business and concealed it He left his home for a hotel, and when drinking excessively, wrote violent scandalous letters to his family and employes He associated with low women, but treated them harshly, refused to give them money, and was constantly in trouble No public exposure disturbed him He was frequently in court for petty swindles and refused to pay unless forced to His business declined and was finally taken out of his hands and he became a low blackmailer and beggar, drinking at all times and places He was examined for lunacy and decided to be sane No symptoms of insanity were found, nothing but wilfulness and vicious cunning, was the opinion of Philadelphia experts Finally he was convicted as an accessory to murder and incendiarism, and sent to prison for life This was clearly moral insanity acquired His family and early history showed no trace of defective consciousness or moral weakness His parents were temperate, moral people, church members above all suspicion In his early life he attended church and Sunday school, and was a lovable, attractive character He began his business career with his father, and seemed in every way most honorable and honest He displayed excellent judgment and was intrusted with large business interests which he faithfully executed During the illness from typhoid his father died, and on his recovery he was put in charge of the business A total change of character which followed his recovery might have been due to the spirits given, or the injury of some local center from the fever At all events, the use of alcohol intensified and fixed this condition In both of these a great deal of mental vigor and superficial sanity was associated with this low moral brain force The experts could find no impairment of his reasoning and memory, and concluded his conduct was simply vicious

In the first case immoralities and dishonesties of conduct were judged from the same point of view To these experts, failures to observe the relations of right and wrong, duty and obligation, had no physical basis, and were mere psychic temporary lapses The use of alcohol was accountable for this and as this could be stopped any moment, it was a condition which the person could control at will Fortunately such views are but the survival of theories of long ago The central point I wish to emphasize is that moral insanity follows all use of alcohol, and is present in all inebriates to a greater or less degree This condition is inherited and acquired, and exists to a far greater extent than would be supposed There are many excellent men who use spirits not to a great excess, who are sufferers from disease The constant beer and spirit drinker will be found to present the most numerous examples. This field of study will furnish defects and degenerations, which follow the same uniform laws as other more apparent lesions.

SOME MEDICO-LEGAL ASPECTS OF SENILE DEMENTIA.

Presented to the Section on Neurology and Medical Jurisprudence at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY WILLIAM B. FLETCHER, M.D.
INDIANAPOLIS, IND.

Perhaps the most marked feature in the relations of Law and Medicine which has become prominent within the last twenty-five years, is the tendency to "break wills," or contest them upon the ground of mental unsoundness, said mental unsoundness being usually attributed to the advanced age of the testator which the medical expert—being compelled to give a name—denominates "Senile Dementia."

It is not likely there are more old persons making wills, or that senile dementia is on the increase, and our query is: Why has litigation on this ground become more frequent than it was a half century ago? As our laws pertaining to wills have not changed, and as the disease—so called senile dementia—has not changed, why is that about nine in ten wills made by wealthy persons are subject to litigation, and the wealth earned by the testator, which was as much his own as his watch or his jack knife, is diverted from the channel indicated in his last request, into the pockets of the attorneys, primarily, and, occasionally—some of it—to the account of his unworthy and remote relations?

From careful observation extending over thirty-six years, I am of the opinion that the change referred to is largely due to a degeneration in the character of the Bar, and a decided weakness in the character of the Bench; attorneys who instigate litigation, and ignorant judges who sum up the evidence without knowledge and deliver weak opinions. Then, we have another cause. Our form of government, our system of education, and lack of that religious and moral training which teaches filial respect, gratitude and love for parents and benefactors.

Still another reason for breaking wills is the inadequacy of the statutory laws in most, if not all, of our States, to protect the wishes of the testator, and that the question of mental unsoundness is submitted to a jury of men totally ignorant of the whole subject of mental phenomena either in health or disease, and their knowledge of the case presented to them can only be gained through the tortured and tortuous examination and cross-examination of most ignorant men, women and children who are called as witnesses; and then, to complicate the matter, there are the lawyers for the prosecution and defense, who have gained a hurried something of senile dementia from some text-book—usually written by one not a professional alienist—and have a shallow knowledge of "will-making power" gleaned from theoretical essays, or works on medical jurisprudence written by a lawyer. All these causes are in constant action, and combined, produce those astonishing and unjust verdicts of "mental unsoundness" which are so commonly returned by juries in "will cases," and which are so encouraging to all the relations of a testator to the third and fourth generation. Then there is the judge—the thirteenth juryman—ready to estimate the value of the evidence, and also to give opinions and rulings. And yet, for a judge to translate, so to speak, the evidence in a case of insanity of any form, would require a knowledge of anatomy and physiology from the moment of conception to the period when the will was made, or the crime committed.

So much for the legal side of my subject, for the medical side cuts but a small figure. There are two kinds of medical experts. The first and largest class are professional experts. I mean those who will take a fee and appear before the jury for either the prosecution or defence—whichever will pay the most—as expert witnesses, in cases involving the most intricate knowledge of the chemistry of poisons, in surgery of all kinds, obstetrics, mental and nervous diseases. And there are experts well qualified, who are honest, but who are hoodwinked by the attorneys on either side to consent to a condition presented to them in a hypothetical case. Now, unfortunately, attorneys are not sworn to tell "the truth, the whole truth, and nothing but the truth," and the expert is employed according to his expressed opinion. The methods employed may be strictly legal in form, but the introduction of witnesses of fact, and of medical witnesses who are not alienists by profession, and of expert witnesses almost forbids an appreciation of the truth as to the testamentary ability of the testator. No matter how great their ability, their value to the jury as a means of determining the mental condition of the testator is absolutely nothing more than the confusion of tongues in Babel.

The expert witness is not allowed to form an opinion from the evidence given by the witnesses, and thus explain to the judge and jury the value of the symptoms for or against the testator's mental soundness, but the expert witness must listen to a hypothetical case, yea, not one hypothetical case, but two, and from these hypothetical cases he must form and give a direct opinion as to the testator's mental condition. Now when we consider the fact that the attorneys are but playing a game of hazard, as much as a professional gambler does in a game of "draw poker," we can see how absolutely valueless the expert testimony may be made. The experts for the prosecution and those for the defense are pitted against each other as cocks in a cock main—an expert acid and an expert alkali neutralizing each other.

I give as an example of legal logic, and how the medical expert is handled and compelled to swear falsely, the following: After the direct examination by the prosecution the expert is handed over to the defense. After again answering various unimportant questions as to former history, etc., the defense begins: "You have sworn that the animal in question that ate the cabbage was a rabbit. Now we wish you to listen to a hypothetical case: 'An animal was found eating the grocer's cabbage; this animal was of white skin with black spots; its hind quarters are slightly higher than its fore quarters; in movement, it either runs, walks, or leaps; it has two eyes, and two ears, rather long, slightly pendent. It is predatory in its habits and a ruminative animal; it devours clover, grass, cabbage, etc.' Now, Doctor, with these facts as presented in our hypothetical case, is not this animal a goat? Answer my question." "Well, it might be either" answers the expert. Then the defense howls, appeals to the judge in a heated little speech for the benefit of the jury, and shows that the witness is either stubborn, or so ignorant that he does not know a rabbit from a goat Then the expert is finally pinned down to "no' or "yes," and he has to swear that which he knows to have been a rabbit was a goat Then, when the defense gets its case on to the expert for the prosecution, said expert acknowledges that a goat is a rabbit, and the paid experts are arrayed against one another like champion football players, but the result is usually without effect upon the ignorant jury, or upon the judge

The difficulty in the matter, when senile dementia or incapacity is made the basis of a suit, rests in the misapprehension that senility is insanity, whereas it is but a condition wherein the mind of aged persons no longer records new ideas, and has forgotten many old ones It is a change, physiologic in character, that would come to every human being should the vitality of the heart and assimilation of nutriment continue long enough The physical and mental activities are retarded and limited, but the memories stored up in the mind's great granary are rarely destroyed An apple may have a speck of decay, and yet have much perfect and palatable fruit

Bachal's description of old age shows a condition where life's beautiful sunset is pointed at by unprincipled lawyers and avaricious heirs as a black and bursting storm-cloud of disease "Seated near the fire, and concentrated within himself, a stranger to everything without him, he passes his days there, deprived of desire, of passion and sensation Speaking little, because he is determined by nothing to break his silence, yet happy in feeling he still exists when almost every other sentiment is gone" To the physiologist it means diminished blood supply through an atrophied brain and changed qualities of blood through imperfect nutrition The quality of the blood which is required for renewed mental activity is yet rich enough in vital principle to brush the dust from the pictured memories within the brain cells This is senility To entirely wipe out the images and thoughts etched upon the tablets of the minds of the aged is senile dementia Now, there is a period where the transition is so slow from the former to the latter that it is extremely difficut for the laity, the judiciary, or even medical men who are not alienists, to determine the mental capacity of the aged subject I would suggest and assert that where an individual owns property which he has acquired by his own efforts, and is able to describe that property, and knows to whom he wishes to convey it, that person, no matter what other mental deficiencies may exist, is of sufficiently sound mind to devise and will such property to whomsoever he may desire

The gradual failure of the special senses by which all knowledge has been obtained deceives the unprofessional observer, the defective vision, the deafness usually associated with old age, disable the individual from participating in the social life about him, and with the fading brilliancy of the eye, the arcus senilis, and relaxed and atrophied lower jaw, give to the individual a peculiar stupid and demented expression, yet such person, properly addressed, will display that he has not yet ceased to think with some degree of accuracy and vigor "The latter fact,' says Ray, "will be known only to his intimate friends, while his defects are noted by common and occasional observers, who are always ready to decide upon a person s mental capacity from an occasional glimpse of his manner, or a few remarks upon most ordinary topics' Every physician knows that there are many old persons who display lack of memory many miscall names and do not recognize at all times—perhaps from imperfect vision—persons whom they have long known, yet, when the subject of property is touched upon, or their business interests mentioned, they understand perfectly well, and converse upon business and family matters with perfect understanding

One of the greatest evils of our system of dealing with will contests, where the allegation is that of senile dementia, is that the trial is before a jury who know that the expert testimony upon both sides is paid for, and that the evidence given by experts is based upon hypothetical cases, and even a very ignorant jury would note the great discrepancy between the wily lawyers' hypothesis and the observed facts as related by the most ordinary witnesses It is astonishing to note with what perfect ease the most stupid, ordinary, ignorant man, woman or child can calmly diagnose these cases which would puzzle the most proficient scholar in psychiatry, and by their testimony put the most expert alienist to shame before the jury In a recent trial in Indiana, conducted by the most prominent attorneys in America, a will was thrown out upon the jury finding the old man who dictated it was of unsound mind The following, in brief, is a sample of the evidence

Witness (a negro barber) says "Mr X went to sleep while being shaved, when roused up looked kind of wild and confused '

Attorney—"Do you believe Mr X was of sound or unsound mind?"

Witness—"Unsound"

Newspaper boy—"Have seen Mr X often sell him papers, he had tobacco spit in the corner of his mouth, looks like he don't know nothin' '

Attorney—' Do you think him of sound or unsound mind? '

Witness—"Unsound"

A farmer's testimony was that when the testator visited him he put his horse with others in a stall, and when he, the testator, was going away, he went into the wrong stall and put the harness upon the wrong horse

Attorney—"Do you believe Mr X was of sound or unsound mind?'

Witness—"Unsound" —notwithstanding that the stable was dark and the testator could see, at best, but imperfectly

A physician noticed Mr X at the postoffice his trousers were not closed "I whispered the fact to him, but he went on without correcting the impropriety" (X was deaf as a post)

Attorney— Do you consider the man of sound or unsound mind?' "Witness—Of unsound mind"

It was proven that the testator frequently forgot the names of persons lost his locality at times, repeated the same things over It was also proven that up to the time of making his will he kept accurate written account of all his business and financial transactions, and wrote most sensible and affectionate letters to his children and grandchildren—those children who, although left in affluence, rushed into court to put the stamp of insanity upon him ere the grass was grown over his grave Thus, through the ignorance of the "thirteenth member of the jury, most ignorant witnesses were permitted to give expert testimony were boldly encouraged to pronounce upon the physical condition and mental capacity of a person they hardly knew

There is no standard by which mental capacity can be measured by the courts, and judges take to themselves the grave responsibility of deciding questions upon which they are as ignorant as they are adverse to one another So uncertain are the judges, that they command neither the respect nor the confidence of the people, and are therefore shorn of the moral force and influence that properly appertain to judgments of courts

The following will illustrate the views of a few eminent jurists upon the general subject of insanity

"General insanity would necessarily preclude a trial, as a person in that condition can make no defense whatever"—Beardsley, C J

"That you are of unsound mind I believe, but that is no reason why you should not be punished as an example to others"—Bramwell, B

"To execute an insane person is against law, and of extreme inhumanity and cruelty, and can be no warning to others"—Sir E Coke

"To relieve from responsibility, insanity must be absolute, a man must know no more than an infant, a brute, or wild beast"—Tracy, J

"Absolute insanity not necessary, if the prisoner was insane with reference to the crime charged, it is sufficient"—Beardsley, C J

"It must be clearly shown that the accused did not know right from wrong Partial insanity no bar to responsibility"—English Judges in Conference

"The preceding opinion designated 'exquisitely inhumane' and absurdly impracticable"—Ladd, J

"The test lies in the word 'power' Had the accused power to know right from wrong, and had he power to adhere to the former and avoid the latter?"—Brewster, J

"The law does not recognize 'uncontrollable impulse' if the prisoner knew *right from wrong*"—Alderson, B

"There is an uncontrollable impulse, or irresistible inclination to kill, which, when proved, *relieves from responsibility*"—Gibson, C J

"If he knew that he was committing an act against God and nature, he is responsible"—Lord Lyndehurst

"If the person acted under uncontrollable impulse, notwithstanding his knowledge, the act was not his act, hence he was not responsible"—Shaw, C J

"Moral insanity affirmed to be held a good defense by all enlightened jurists"—Robertson, J

"Moral insanity denied as being a good defense, and the opinion that it was, declared to be most startling, irresponsible and dangerous doctrine, unknown to the courts of last resort in either Britain or this country"—Williams, C J

"If he did not know that the act he was doing was wrong, he is not responsible"—Tindal, C J

"If he knew that the act was wrong at the time he committed the deed, he is responsible"—Parke, B

"The defense must prove absolute alienation beyond all doubt, such insanity as would prevent the accused from knowing that murder was a crime against the laws of God and nature, and that there was no other proof of insanity which would excuse murder or any other crime"—Sir James Mansfield

"An insane man can not commit a crime If there is a doubt of the insanity, how can the jury say a sane man committed the crime? A reasonable doubt as to insanity should avail as much as a doubt of any matter of fact"—Crawford, J

"The onus of proving insanity is on the accused, and if left in doubt, the jury should convict"—Rolph, B

"The onus of proof of insanity, as well as of guilt, rests on the State after the presumption of sanity has been removen by the defense"—Cooley, C J

"The proof of insanity to acquit should be as strong as the proof of guilt to convict"—Hornblower, C J

"If the jury entertain a reasonable doubt of insanity, they ought to acquit"—Doe, J

"A preponderance of evidence in favor of insanity should acquit"—Shaw, C J

"Whether there is such a mental disease (dipsomania) is a matter of science and fact, not of law"—Smith, C J

"If he knew that the act was a crime forbidden by the law, he was responsible"—Lord Brougham

"There are no legal tests of insanity When the judge gives a legal test of insanity, he either testifies to a question of fact, or the expert witness has testified to a question of law Thus the law is brought into conflict with itself"—Doe, J

"The introduction of medical opinions and theories in the subject of insanity has proceeded upon the vicious principle of considering *insanity a disease*"—Lord Chancellor Westbury

"Judges and lawyers, profoundly ignorant of insanity, have invaded the province of medical experts—the province of those who know all that is known on the subject—and for legal tests use exploded obsolete medical theories"—Doe, J

"Ordinary men of the world are just as competent as witnesses as medical experts in insanity cases"—Bramwell, B

"Medical experts are infinitely better qualified to judge of insanity than are courts or lawyers"—Ladd, J

"Expert testimony not only of no value, but worse than that"—Davis, J

"Expert testimony of great weight, and deserves the respectful consideration of the jury as competent evidence"—Shaw, C J

"The whole difficulty is that courts have undertaken to declare that to be a law which is a *matter of fact* All symptoms and all tests of mental disease are purely matters of fact for the jury, and not matters of law *for the judge*"—Doe, J

The constantly increasing litigation in America when questions of sanity and insanity are involved, demands some change in method and in law Maudsley says "It is notorious that the acquittal or conviction of a prisoner when insanity is alleged, is a matter of chance Were the issue to be decided by tossing up a shilling instead of by the grave procedure of a trial in court, it could hardly be more uncertain" A celebrated British jurist says "Acquittal on the plea of insanity is a mere matter of accident"

In one simple change of law much time and expensive litigation could be saved 1, that the judge may only call upon experts to aid in translating, as it were, the evidence as given by the witnesses, 2, none but practical alienists should be called as experts in insanity cases The general practitioner can not be an expert in insanity any more than a mechanical engineer could be an expert in the construction of a watch The experts called by the court should hear all the evidence given, and not hypothetical cases of either side Experts should be paid by the State or county, and not be allowed to take fees from either the prosecution or the defense

When we have arrived, as we will in time, at that period of enlightenment, there will be less tendency to useless and unjust litigation, a man's property may be conveyed as he may devise, guilty persons will not be acquitted and innocent persons hanged in the sacred name of Justice

---

SOME EXPERIMENTS IN URIC ACID—UREA

EXCRETION BY THE KIDNEYS IN AN INDIVIDUAL UPON A MILK DIET, AND IN A CASE OF RECURRENT MELANCHOLY

Presented to the Section on Neurology and Medical Jurisprudence at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY F SAVARY PEARCE, M D
INSTRUCTOR IN PHYSICAL DIAGNOSIS, UNIVERSITY OF PENNSYLVANIA,
FELLOW OF THE COLLEGE OF PHYSICIANS
PHILADELPHIA

I MILK DIET

Before the Section on General Medicine at the semicentennial meeting of the ASSOCIATION the writer presented a study of "The Rôle of Uric Acid in Neurasthenia and Allied States,"[1] and drew the conclusions from the investigation that uric acid and its congeners must be potent causes in many cases of neurasthenia and other like nervous disorders, or must again cause aggravation of essential cases Since that time further experiments as to the knowledge needed of internal metabolism and the significance of the amount of uric acid excretion to such bodily disturbance have been carried out, and, as first suggested in the paper quoted, the quantitative determination of uric acid on a milk diet has been sought for

---

[1] Virginia Medical Semi Monthly June 25 1897 Medical and Surgical Reporter, March 31, 1898

Dr S Weir Mitchell kindly selected a private case of exaggerated subconscious self (hysteria) and of mild functional nerve tire at the Infirmary of Nervous Diseases for my urinalyses This woman we feel was but little away from physiologic functionation, her malady being largely loss of will power, of idiopathic etiology This is mentioned so as to not be misleading and to thus assume very probably about a normal secretion and excretion of an average individual, which is the desideratum Having her under control in a hospital carried out the ideal conditions for watching and testing carefully the effects of milk diet on uric acid excretion in health

Mrs F B, age 40 years There is a negative family history Patient has always been physically pretty healthy, but very nervous When young was subject to causeless, painless and bloodless attacks of vomiting No rumination Menstruation first began at 13 years, is regular, lasting about one and a half days, scanty, but not painful As further evidence of her essential nerve weakness, we may mention neuralgic attacks at 33 years and of causeless irritable bladder, the urine being found normal No reason can be determined for her not ever being pregnant Her generative organs are normal

Hysteric manifestations in an exaggerated form followed business cares and the nursing of patient's father and mother, some seventeen months before the time she came under treatment, Nov 11, 1897 The vomiting attacks of childhood recurred and became a "habit" She ejected much mucus—never food Sudden hysteric gastrectasia and meteorism, with final abdominal contraction and sequent gushing of gas from the mouth ensued, occurring daily at exactly 4 P M —a mental habit—for two weeks before she came under treatment She also then had marked subjective and objective vertigo, although her hearing and ears were pronounced normal There were hysterical syncopal attacks, and daily nervous chills, attacks of transient amblyopia, intense frontal headache and at night frightful dreams, with jerking of head to the right, the consciousness always being preserved, however Has not walked alone these seventeen months from supposed hip disease—also a hysteric vagary We examined her very carefully and as to the secretions, but could find no physical or chemic alteration in any organ, excretive or secretive Her appetite was very good, and after the thorough régime of the full "rest" treatment, became ravenous, so that she had discomfort after meals, and the ingesta was therefore lessened Her tongue was large, clean, flabby, tooth-indented There was no abdominal distress, but slight pressure tenderness on palpation over right upper quadrant of abdomen, due to the gastric distention noted On being put to bed our patient's weight was 134 pounds, her temperature was 98 degrees F, respiration 20 and pulse 92 rhythmic and compressible She was at first placed on the regular "house diet—a cereal for breakfast with the addition of four "meat balls" daily and Nestle s food ℥iv in the morning on waking Liquid malt ℥ii was administered twice a day and besides the usual general massage and faradism daily, phosphate of soda ʒss before meals and an occasional dose of spirits chloroform gtt xv, acted well as laxative and carminative while the useful pil sumbul comp, t i d, was the tonic therapeusis in the case Fl ext cascara sag, gtt xx, at night, followed by a warm water enema at 10 A M proved of value when constipation was annoying Her temperature was usually slightly elevated after massage

With this outline the uric acid excretion remained normal up to Nov 27, 1897, when she was placed upon a skim-milk diet, at first ℥iv every two hours, gradually increased up to ℥viii every two hours, when a dram of lime water was added to assist digestion then the amount of milk was pushed to ℥xii every two hours in the waking day Some "fullness' in nape of neck was relieved by application of an ice bag daily, usually toward the evening hours Isolation being insisted upon, we thus had, with Swedish movements added, an ideal rest with natural metabolism in an apparently healthy body, assisted by the passive exercise and absence in it of loss of nerve energy

At the end of a fortnight the woman was gradually gotten up, at first fifteen minutes twice daily and increased five minutes at each daily sitting, as there was no necessity for prolonged rest in so actively hysterical a case, where true nerve exhaustion played so little a rôle Dr Thomson could find no adequate cause for headache in the eyes, and its irregular recurrence did not lead us to suppose it of metabolic origin The following table (No 1) gives the results of my urinalyses during the milk period and after, from Dec 4 to Dec 23, 1897, beginning after the woman had been upon milk alone for a week The urea was also estimated upon a number of occasions The amount of milk administered reached at its acme one hundred and twenty ounces, proving the normal metabolism of the system, for, too, there was at no time oxalates to make suspicious such suboxidation

The method employed for quantitative uric acid determination was that of Heintz, previously detailed in my paper already quoted, and therefore (worked under similar conditions of examining the specimen at once) there can be but little fallacy in the findings *

Taking the normal excretion of urea as 2 8 per cent and of uric acid as 05 per cent (i e 28 gm urea in 24 hours, and 6 gm uric acid in 24 hours—and 8 gm NaCl in 24 hours) it is to be noted at the end of the week of milk diet the urea had fallen to 1 4 per cent while the uric acid had lessened to 04 per cent, the amount of urine excreted varying daily from 20 to 30 cm (2630 c c) as shown in Table I The lessening of pigment was a notable point, also the reduction in all solids as shown by the sp gr gradually lessening from 1020 at first to 1012 at end of first week on the milk diet, to 1010 at the end of a fortnight Now the urea had become reduced to 1 3 per cent and uric acid to 03 per cent, so that very few crystals could be detected without centrifugation The urine had now become very limpid, of a light greenish color, and contained practically no deposit, and reaching by the eighteenth day of milk diet without vacillation the lowest ebb in both urea (1 2 per cent) and uric acid (019 per cent) The uric acid continued to *recede* after eggs had now been added to the diet for 24 hours (to 016 per cent) the urea *promptly* rising in the same time however, to 1 4 per cent This we feel rules an excess of uric acid in this case out of court—a normal condition of body

---

* In a private communication from Dr Chas J Simon the kind [illegible] suggestion to adopt the Hopkins method [illegible] decompose your ammonium urate with a [illegible] of HCl and retitrate the excess with NaOH using [illegible] indicator 1 c c corresponds to 0 01[illegible] future work

House (meat) diet was ordered on the twenty-second day, and the urea, which had then risen to 2 per cent, became less (1 6 per cent), while the uric acid, which had the day before begun to rise, now took on more active production and elimination, reaching 03 per cent on the twenty-second and 034 per cent on the twenty-third day of experimentation, the urea coming slowly up to 1 8 per cent , and on the twenty-fourth day urea reached the 2 per cent mark, uric acid being 036 per cent On the twenty-fifth day the urea remained at 2 per cent, while the uric acid tide had risen to 4 per cent, and on the twenty-sixth day the uric acid was recorded 046 per cent (about normal), while the urea was lacking 8 per cent of normal

This see sawing in the relative proportion of urea and uric acid, while showing on the whole the tendency to lessening of both when proteids are cut off or bodily tissues are suboxidized, yet, as held in my previous studies, shows clearly enough that the ratio of urea to uric acid is not held at a fixed proportion, but that if one is *more* the other is apt to be *less*, no doubt due to the degree of oxidation in the process Recent studies of urine have further legitimately proven that where there is much disturbance of metabolism in a given case, besides this urea uric acid disproportion, oxalate crystals are more in evidence

Now in the past year, since we have gotten a reliable quantitative test for indican,[3] we may yet hope for some reliable quantitative proportion test of oxalates and other by-products to uric acid, and that the therapeutic value of such understanding may further on in physiologic chemistry help our treatment of the dread uric acid diathesis

TABLE I —URIC ACID FINDINGS (MILK DIET)

Date	Amount twenty four hours	Amount taken in ounces	Specific gravity	Color and sediment	Urea percentage	Uric acid grams to per cent	Notes
Dec 4, 1897	83 oz or 2490 c c	8	1012	Light straw	1 4	04	End of first week on milk 4 ounces (with 1 dram aq calcis) every two hours until 12 ounces milk every two hours taken (120 ounces)
Dec 5 1897	88 oz of 2640 c c	8	1011	Light greenish		039	
Dec 6, 1897	82 oz or 2460 c c	8	1010	Light greenish no pigment		038	
Dec 7, 1897	83 oz or 2490 c c	8	1010	Light greenish no pigment		034	
Dec 8 1897	86 oz or 2580 c c	8	1010	Light greenish, no pigment		032	
Dec 9 1897	80 oz or 2400 c c	8	1009	Light greenish, no pigment		032	
Dec 10, 1897	82 oz or 2460 c c	8	1010	Light greenish no pigment		031	Weight 136 pounds end of second week on milk
Dec 11, 1897	84 oz or 2520 c c	8	1011	Light greenish, no pigment	1 3	03+	
Dec 12, 1897	85 oz or 2550 c c	8	1011	Light greenish no pigment		029	
Dec 13 1897	82 oz or 2460 c c	8	1012	Light greenish no pigment		03+	
Dec 14, 1897	80 oz or 2400 c c	8	1012	Light greenish no pigment	1 2	028	Menstruation regular
Dec 15, 1897	70 oz or 2100 c c	8	1014	Light greenish no pigment		019	
Dec 16, 1897	70 oz or 2100 c c	8	1013	Light straw	1 4	016	Diet (eggs soups) increased eighteenth day
Dec 17, 1897	65 oz or 1950 c c	8	1014	Light straw		018	
Dec 18 1897	68 oz or 2040 c c	8	1016	Darker pigment	2	023	Home diet meat etc twenty second day
Dec 19 1897	69 oz or 2970 c c	8	1020	Natural straw color	1 6	03	
Dec 20 1897	69 oz or 2070 c c	8	1020	Natural straw color	1 8	034	No medicine except occasional dose of trional or bromid for insomnia spts chloroformi for acidity of stomach twenty sixth day
Dec 21 1897	68 oz or 2040 c c	8	1021	Natural straw color	2	036	
Dec 22, 1897	64 oz or 1920 c c	8	1021+	Natural straw color	2	04	
Dec 23, 1897	60 oz or 1800 c c	8	1023	High color, slight sediment urates	2	046	

No albumin glucose nor indican found, except a trace of indican on December 20

POINTS IN CONCLUSION IN URINE FINDINGS IN MILK DIET CASE

1 Great increase of amount of urine in one week after, upon skim milk alone (up to 120 ounces in twenty four hours), *the* patient passing twice the normal amount of limpid urine

2 Urea at the end of first week goes down to one half normal, uric acid to 04 per cent

3 Urea at the end of second week goes down to 1 3 per cent and uric acid to *03 per cent* *Up* to this time amount of urine remaining twice normal

4 Urea at the end of eighteenth day is *1 4 per cent*, uric acid 016 per cent, *one* fifth of normal Diet now increased

5 Urea at the end of twenty second day is 1 6 per cent, uric acid is 03 per cent , diet again increased

6 Urea at the end of twenty sixth day back to 2 per cent, little less than normal, uric acid to 046 per cent, slightly less than normal The patient's weight on Nov 13, 1897, was 134 pounds, by the 27th excess of fat was massaged away to 132 pounds Eleven days on a milk diet brought her up to 136½ pounds, and on December 25 it was 144½ pounds, on Jan 8, 1898, 154 pounds, a gain of twenty one and one half pounds in forty two days

7 Urine progressively decreased in amount when patient was taken off milk diet largely and solid *food substituted* (Proteid food produces about half uric acid formed perhaps, the rest probably coming from body by oxidation, see No 10)

8 Specific gravity lowered in proportion to increase in the amount of urine excreted

9 Color of urine lessened in proportion to increase in the amount of urine excreted

10 *It is here positively established that uric acid in the urine* is reduced to a minimum on a milk diet (about one half the normal)

11 Trace of [*]indican detected on twentieth, twenty first, *twenty second and twenty third days after solid food* was largely added (*fermentation*)

IN SHORT RECURRENT MELANCHOLY

The following table (No 2) is the detailed record of a case of irregular mental depression of short duration in the case of a man in otherwise excellent health, and whose case is detailed by Dr Weir Mitchell,[4] to which very singularly interesting clinical record the reader is referred The conclusions we reached from the examination of this middle aged man's urine have been stated by Dr Mitchell in his book, and I am again indebted to that gentlemen for permission to publish first here the details in tabular form, which are somewhat in accord with work done later by Dr Cleon M Hibbard,[5] and of the pioneer in uric acid studies, Haig, who refers to the same conditions[6]

Our own experiments in states of mental depression are confined to the critical analyses in this one case of short but decided recurrences without other known cause, and where melancholy rather than true melancholia seems the better term to use, as suggested by Dr Mitchell in this case, since the man is not unbalanced by the "cloud suddenly descending unawares upon him," and yet making the *compos mentis* suffering the more acute

---

[3] A Method for the Quantitative Estimation of Indican and Indirubin in the Urine H Richardson *M D and E L* Whitney M D (JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION April 16, 1898)

[*] Indicanuria and Peptonuria Transactions Philadelphia Medical Society June 1894

[4] Clinical Lessons on Nervous Diseases S Weir Mitchell M D Lea Bros & Co 1897 *pp 53 to 57*

[5] A Study of the Excretion of Urea and Uric Acid in Melancholia and in a Case Presenting Recurrent Periods of Confusion and Depression American Journal of Insanity April 18 1898

[6] Mental Depression and the Excretion of Uric Acid Practitioner Nov 18 1888

This man has greatly improved since last year by regularly abstaining from excess of proteids, by care as to bodily chilling and by outdoor life on his ranch in Iowa 'Dull care" we hope may finally be driven away by super oxidation and restored nutrition

We hope in future studies to elaborate the suggestive steps indicated in this work, but feel today confident of almost as wide a horizon in the sphere of etiology of disease through perverted metabolism as in the domain of bacteriology Many of the remote reasons for such disturbed metabolic action may perhaps never be determined, yet the results are becoming more manifest and we are grossly derelict of duty if we fail to search and apply the therapeutic measure for relief and cure The actual "why" is not always possible to find out An intelligent woman recently, on learning of the theory of the neuron, immediately put the trite question "Why, should the neurons have motion?"

TABLE II —EXAMINATIONS OF MR C E (RECURRENT MELANCHOLY)

Urine of twenty four hours 7 P M to 7 P M

Date	Condition	Amount	Amount taken ounces	Sp gr	Color	Urea grams in 1 c c	Uric acid	Blood
Jan 13, 1897	Depressed ten hours	45 oz or 1350 c c	8	1020		026542 = 2 6%	10½ grs	
Jan 14, 1897	Wt patient, urine while much depressed	55 oz or 1650 c c	8	1014		024192 = 2 4%	10½ grs , indican +	
Jan 14 1897	Not depressed latter part of day	55 oz or 1650 c c	8	1018	acid	025290 = 2 5%	100 mgm in 200 c c indican	
Jan 15, 1897	Well, unusually so during last 17 hrs	37 oz or 1110 c c	8	1022		02688 = 2 6%	8½ grs indican	
Jan 16, 1897	Slept well B normal pulse small, 74 to min , T 98 4° F	45 oz or 1350 c c	8	1020	All clear straw	02474 = 2 4%	9⅜ grs , indican	
Jan 17, 1897	Reasonably well	42 oz or 1260 c c	8	1018		02688 = 2 6%	9 9 20 grs indican	7 30 P M good spirits r b c 4 200 000 H = 90 w b c 10 000
Jan 18, 1897	Very bright	55 oz or 1650 c c	8	1020		02688 = 2 6%	10½ grs no indican	
Jan 19 1897*	Bright then bad attack of throat irritation	48 oz or 1440 c c	8	1018		02642 = 2 6%	10½ grs no indican	
Jan 20 1897	Well some depression last few hours	56 oz or 1680 c c	8	1020		02642 = 2 6%	16½ grs , no indican	
Jan 20, 1897	During time very well part of day	33 oz or 990 c c	8	1019		02642 = 2 6%	7½ grs , indic trace	Phosphatic sediment on standing + in each specimen Test for combined sulphates not made
Jan 20, 1897	Very bad, see 'card" acc't of attack		4	1022		024192 = 2 4%	8 grs indic mark'd	
Jan 22 1897	Quite well since 20th	42 oz or 1260 c c	8	1020		02688 = 2 6%	7⅜ grs indic trace	
Jan 23 1897	Twice somewhat depressed	36 oz or 1080 c c	8	1022		025290 = 2 5%	8 1 grs , indic , trace	

* Patient's ever-changing mental state entailed frequent urinalyses on Jan 20 No brickdust deposit, albumin or glucose in any of above

ANALYSIS OF TABLE—QUANTITATIVE FINDINGS AS TO URIC ACID, UREA AND INDICAN IN THIRTEEN SPECIMENS

1 Urine was saved for twenty four hours

2 Eight ounces of the amount used in tests

3 Amounts passed in twenty four hours calculated as to proportion of uric acid and urea voided

4 Specific gravity recorded

5 Per cent of urea given

6 Grains of uric acid (11 normal for 1200 c c) voided in the entire amount of twenty four hours' urine

7 Indican tested as to color (with muriatic acid and sat sol chlorid of lime)

8 Albumin and glucose tested for in each case

9 Patient was on ordinary "mixed" diet and in full activity No medicine

10 R b c , 4,200,000 No leucocytosis H = 90 per cent

CONCLUSIONS—URINE ANALYSIS, CASE OF RECURRENT MELANCHOLIA

1 The specific gravity of the urine bore no relation to amount of urine voided

2 The acidity of the urine was always marked

3 Color of urine was higher when amount voided smaller

4 There was no "brick dust" deposit of urates

5 Average amount of urea voided in twenty four hours equaled 2 5 per cent

6 The normal (urea) being 2 7 to 3 per cent , this reduction can not be positively stated as abnormal, but the continuous subnormal amount with the fact that more than the average quantity of urine voided continuously would lead to the thought that suboxidation of proteids existed

7 The lowest amounts of urea were recovered on the *two* occasions when the patient was much depressed mentally, viz , Jan 14, 1897, 2 4 per cent and Jan 21, 1897, 2 4 per cent In other examinations, recovered 2 5 and 2 6 per cent

8 On corresponding dates, Jan 14, 1897, uric acid equaled 10 5 grains, calculated for twenty four hours, , Jan 20, 1897, uric acid equaled 8 grains calculated for twenty four hours

9 In the former (Jan 14, 1897) 1650 c c voided in twenty four hours, specific gravity 1014 , in the latter (Jan 20, 1897) only 990 c.c voided in twenty four hours, specific gravity 1022

10 Marked color reaction for indican was obtained in each of the two attacks of depression noted during the study It was found in less amount in seven of the remaining eleven specimens recorded in the table

11 The patient passed 55 ounces (1650 c c) on one day of his typic depression, the second day only passing 33 ounces (990 c.c.)

12 As both contained indican in large (color reaction) amounts, intestinal putrefaction may possibly be an important factor

13 No albumin or glucose found in any specimen

14 As to where the uric acid may be when not recovered in urine could possibly be told by difficult analysis of the blood at the time

---

THE PULSE ITS DIAGNOSTIC AND PROGNOSTIC VALUE

Read before the Orleans Parish, La , Medical Society Sept 24 1898

BY T S DABNEY, M D

NEW ORLEANS, LA

The proper study of mankind is man —*Pope*
Have you a working pulse?—*Shakespeare*

Mr President and Gentlemen In the mad scramble for novelties which seems to have seized our profession, as it did the ancient Athenians, you may be surprised at my presumption in asking your attention to so prosaic a subject as "The Pulse Its Diagnostic and Prognostic Value "

This is the age of the infinitesimally small and he who would spring, like Minerva, full grown into fame, must, like Pasteur, Koch, Sanarelli, Klebs Loeffler, Eberth and Laveran, succeed in standing sponsor for some micro organism Failing that, you might yet seek the "bubble reputation" by investigations into the biology of certain of these lower forms of life, and like MacCallum and Opie of Johns Hopkins, succeed in catching the Halteridium of Labbe in his amorous advances These observers having shown that the passive granular form of this hematozoon is the female, and the lusty, aggressive hyaline form the male, is but to open the way for a more thorough study of their family relations

Pardon me for this digression, but I felt some apology due you for occupying your time with the pulse of man himself instead of that of some schizomyces Without underestimating the labors of those toilers in the hitherto untrodden fields of bacteriology you will yet excuse [illegible] believing that man is of the bacillus, by [illegible] nd for the baci [illegible]

The physicians in the olden times gave much careful attention to the pulse, and the amount of information to be gained in its study is astounding By the introduction of percussion by Anenbrugger in 1761, and auscultation by Lænnec in 1816, the interest in the study of the pulse, was decidedly lessened This interest was further diminished by the introduction in 1861 by Marey, of the sphygmograph The clinical thermometer, introduced somewhat later, dealt a death-blow to the painstaking study of the pulse Every new study tends to force the old to the background We must ever bear in mind that not all that is old is bad, nor all that is new good Let us rather follow the noble advice given by St Paul to the Thessalonians "Prove all things, hold fast that which is good" Tried in the crucible of time the gold can be separated from the dross I hold with Cicero that "Not to know what happened before we were born is to remain always a child" I welcome every new discovery that renders diagnosis or prognosis more certain, and while fully appreciating the impetus given physical diagnosis by the introduction of means and methods of precision, yet I firmly believe in holding fast to all that is good and in profiting by the experience of those that preceded us

The value of the study of the pulse can not be overestimated The sphygmograph but records what the finger feels, and the more the finger is educated the more it feels The tracing of the sphygmograph is, as it were, a photograph of the pulse, and like all photographs, lacks tone, expression and volume—the original must have been known to be appreciated Without seriously considering the claims of the Arabs, Moors and Chinese—and their claims are many—we may state that Galen of Pergamos, Mysia, is the earliest authentic writer on the pulse, and he seems to have read it like an open book I do not believe there is a more masterly and comprehensive treatise on this subject than that by him who won the double sobriquet of "Paradoxologus" (wonder-speaker), and "Paradoxopœus" (wonder-worker"), in imperial Rome, where he became the physician to the emperors, Lucius Verus and Marcus Aurelius To Galen, the pulse seemed to speak, and his prognosis, based upon it, often smacks of the marvelous Though living in the second century, he was unquestionably a great physician, and to his close study of the pulse, much, if not most, of his reputation was due, for it is an indisputable fact that nothing adds more to a physician's fame than an accurate prognosis Nothing strikes the human intellect with more awe than one's ability to read aright the portents of the taps of those "muffled drums (that) are beating funeral marches to the grave"

Strange as it may appear, Hippocrates seems to have paid as little attention to to the value of the pulse as the majority of the teachers of physical diagnosis in our schools today About all to be learned of the pulse in the average medical school, now-a-days, is to count it

Galen named and accurately described thirty-six different varieties of the pulse Just think of it! I can not do better than to reproduce his original table

1 Long pulse, the artery strikes several or all of the fingers
2 Short pulse, artery strikes only one or two fingers
3 Wide pulse, artery distended
4 Narrow pulse, artery contracted
5 Elevated pulse, artery strikes forcibly and repels hand
6 Low pulse, artery scarcely perceptible
7 Big pulse, artery distended in width, length and elevation
8 Small pulse, artery little distended according to these three diameters
9 Quick
10 Slow
11 Frequent
12 Rare
13 Vehement or strong, artery strikes fingers forcibly
14 Feeble or languishing, reverse of above
15 Hard, the finger yields to the pulsation
16 Soft, the pulsation yields to the compressing finger
17 Full, the artery is full and resists the touch
18 Empty, the artery disappears, yielding to the finger, possessing no solidity
19 Equal
20 Unequal
21 Rat tail, starts large and rapidly diminishes down to a point like a rat's tail
22 The feeble rat tail, one seeming to cease, or ceasing altogether
23 The rat-tail that strikes more forcibly the two middle fingers, scarcely touching the first and last
24 Intermittent
25 Intercident
26 Failing, stopping altogether
27 Capricious, interrupted in the middle of its diastole, then finishing in quicker time that of its commencement
28 Dicrotic, striking twice like a hammer rebounding from an anvil
29 Wavy, rising gradually under the fingers
30 Vermicular, like a worm
31 Formicating, like an ant
32 Trembling
33 Palpitating
34 Convulsive, artery tense like a cord
35 Serrated, strikes fingers unequally, like a saw
36 Ardent, artery rising and striking promptly and forcibly

To take the pulse properly, the physician should be seated by the side of the patient, who should be in a sitting or recumbent posture, with arm extended and resting on some support The physician should lightly place the four fingers of his right hand over the left radial artery of the patient, with his index finger nearest patient's hand, the little finger will thus be the first to receive the stroke The pulse should always be taken at each wrist, for reasons to be given later By so doing the presence of aneurysms can often be suspected, and frequently verified Pressure should alternately be made and relaxed to determine the hardness or softness, force or feebleness, the largeness or smallness, the swiftness or slowness of the pulse Again, other factors, such as the frequency, the rareness, the irregularity, the inequality, must be taken into account A strong pulse is characterized by volume and vigor, a weak one by the reverse conditions To the tyro, the number of pulsations to the minute, which can generally be counted accurately by means of a watch, is all-important, but valuable as this information often is, it is the least important of all other signs to the experienced clinician, who cares little whether the heart contracts seventy-five or a hundred times a minute He is mainly interested in the dynamics of the viscus, rather than in the derangement of its running-gear A few drops of digitalis, the fractional part of a grain of glonoin, a glass of beer, fright and the various neuroses, readily serve to affect the inhibitory or accelerator fibers of that "rope of mingled strands"—the vagus and the sympathetic system Above all things, should the family physician be familiar with the pulses of his patients in health, for, as is well known, some families have abnormally slow and others fast pulses According to Fothergill (The Physiologic Factor in Diagnosis), "a pulse of 40 or even less is not rare" (normally) All of us are familiar with patients whose pulses in health run from 90 to 100 and even higher Then again, arhythmia, cousingermain to the dilated ventricle, is normal in a number of persons whose hearts beat with regularity only under the stimulating effects of pyrexia Again, we find intermittency—that sign so closely linked with muscular and structural decay, always alarming and frequently speaking in unmistakable tones of impending disaster—is often but a neurotic trick, or else it may be caused by any sudden shock, by excitement, by advancing years, or in the convalescence from severe illness We should ever bear in mind that the pulse depends upon three things the ventricular systole, the arterial walls and the state of the arterioles

The antithesis in the state of the arterioles is beautifully shown in the pyrexias, and in the granular kidney In the former the blood flows freely through relaxed arterioles, giving us the rapid pulse of half-distended and slack vessels The accelerator fibers of the vagus or sympathetic being stimulated, the heart pumps vigorously to supply blood for the unfilled vessels In the latter, the roots of the vagus being flooded the inhibitory strands of the vagus are excited and the heart's action slowed, and we have the ominous, cord-like pulse of high arterial tension As a fast pulse does not necessarily imply mural decay nor pyrexia, so a slow one is not of necessity of grave import That the slow pulse of yellow fever is not due to any specific bacillus nor its ptomains, but rather to the toxic effect of an accumulation of the bile salts in the blood is clearly shown by the presence of the same symptom in ordinary cases of icterus This fact is further accentuated by the coincidence of the appearance of colemia and the bradycardia and by their disappearance *pari passu* It may, *en passant*, be stated (Louis' law) that the earlier the appearance of jaundice (pronounced) the graver the prognosis, commencing by or before the third day, death is almost certain, by the fifth day, death more probable than recovery, after seventh day, recovery almost assured It will thus be seen that bile, like muscarin, first markedly slows the heart's action by powerfully irritating the inhibitory fibers of the vagus If this irritation be carried too far the heart's action is slowed down until it ceases altogether In such an event the patient will be found to be of a bronzed or mahogany tint, so marked is the cholemia Accepting this as a fact the logical treatment readily suggests itself and the rationale of the large, high saline enemata is understood However, the ordinary slow pulse of typhus icteroides, as you all know full well, is not of grave moment The danger lies in the rising and not in the falling pulse ordinarily To put it more scientifically, we have more to apprehend in this disease from the stimulating effect of some specific toxin upon the accelerator fibers of the sympathetic system than from the effect of bile upon the inhibitory centers of cerebro spinal origin It is hardly necessary, in this connection, to call your attention to the lack of correlation of pulse and temperature so pronounced in yellow fever but it may not be amiss as a diagnostic point, to state that a falling pulse, taken in connection with a rising temperature in an acute febrile disease, is well nigh pathognomonic of yellow fever The elder Faget called particular attention to this anomaly

It is in pulmonary disease that the prognostic value of the pulse is invaluable Be it phthisis or pneumonia, a rapid and steadily increasing pulse-rate is ominous In the early diagnosis of phthisis, I regard it as far more valuable than the clinical thermometer, though the value of that instrument can hardly be overestimated Often the rapid pulse will enable one to diagnosticate phthisis before the thermometer gives any evidence of pyrexia, and long before any physical signs are appreciable A pulse running from 90 to 100 habitually, in a person of bad family history, demands your urgent attention, and you should not lose valuable time waiting for "cultures" to confirm your suspicions, but act promptly in giving your patient the benefit of the best dietetic, therapeutic and climatic treatment—treat the disease first, diagnose it afterward, and thereby avoid following the advice, seriously given to his class, of a distinguished pathologist of my acquaintance "follow *all* their patients to the dead-house"

The fast pulse of nervousness can readily be differentiated You should also bear in mind that tachycardia in old alcoholics, is the rule, and hence of no prognostic value Moderate but habitual drinkers generally have an accelerated pulse-rate All you gentlemen who have had occasion to make many examinations for life assurance—I think "assurance" the correct term—must have been struck with this peculiarity of the pulse of the ordinary man around-town who habitually takes a stimulant with his lunch, and usually a cocktail before dinner, and a postcœnal *pousse café*

The bradycardia of fatty degeneration of the heart is apparent rather than real, as many of the ventricular contractions are too feeble to propel the blood with sufficient force to be appreciated at the radial The stethoscope will clear up the discrepancy The slow pulse of the gouty heart, or rather the hypertrophied heart of chronic Bright's disease, is readily differentiated, as it is tense and cord-like and usually accompanied by large quantities of limpid urine of low specific gravity However, in time, when fatty degeneration sets in, and the walls of the heart become weakened, the ventricles lose their force, and the urine becomes scanty and high-colored When this stage is reached, the patient is on the down-grade, or as Fothergill tersely puts it "An increasing bulk of urine tells that the case is at the stage of waxing hypertrophy, the fall in bulk tells that the hypertrophy is being undermined by a histolytic process" From a prognostic point of view, this symptom can not be too strongly insisted upon, for as Traube truly says, a high blood-pressure means a large bulk of urine, and conversely The polyuria of hysteria, with its tight pulse, is but another proof of Traube's aphorism The large quantity of limpid urine passed by the hysteric, robs the high arterial tension found in this class, of its significance The pulse of failing hypertrophy is so characteristic and is fraught with such a hopeless prognosis that you will pardon my stating that whenever the pulse of a suffer from chronic nephritis beats regularly for several strokes, quickly followed by several imperfect strokes, a slight halt, and then a full contraction, you may safely say that the curtain on the last act of the drama of life is about to be rung down

The simple halt of the neurotic or the dyspeptic can never be mistaken for this grave sign as it is never preceded by the imperfect strokes However, in some dyspeptics the halt is so well marked as to be plainly and painfully remarked by the patients themselves Much needless suffering has been caused this unfortunate class of patients by the hasty diagnosis of heart disease I recall the case of a wealthy lady of this city, a great sufferer from atonic dyspepsia and this form of abrupt halt, who, for years, was in constant dread of sudden death In spite of my frequent assurances that her stomach and not her heart was the viscus affected, she could not quite believe that her former medical advisers were all wrong, and I alone right, for, "can I not feel my heart stop?" she would often say During one of her trips north, I prevailed on her to consult that chief among diagnosticians DaCosta Since that time, ten years ago, she has learned that flatulence by pressure on the tendinous portion of the diaphragm can cause tumultuous action of the heart as well as complete intermittency

Dr Dehio of Dorpat claims that most cases of bradycardia are due to nutritional changes in the automatic nerve centers in the heart, dependent probably on local sclerosis of the branches of the coronary arteries leading to such centers As shown by Dr J W Ogle (London *Lancet*, February, 1898) in four cases reported by him to the London Pathological Society, the bradycardia was associated with thickening of the endocardium and fibrinous deposits mostly at the bases of the ventricles The bradycardia of true angina pectoris is nearly always associated with sclerosis, calcification or ossification of the coronary arteries themselves, or else a similar condition at or near the aortic opening This condition renders the prognosis very grave, and calls for promptness in lowering arterial tension, in toning up the cardiac musculature, and in anticipating cerebral ischemia The prompt administration of such remedies as nitrite amyl, trinitrin and strychnia, with the continued use of the iodids, fulfil such requirements All vasoconstrictors, such as ergot, digitalis and quinin should be studiously avoided Morphia should be given, *if at all*, with the greatest caution

In this connection it might be well to call attention to the cardiac ganglia imbedded in the auricles, These ganglia are intimately connected with the sympathetic nervous system They are purely sensory, and have no motor fibers Romberg and His have demonstrated in the heart muscular transition fibers that pass directly from the auricles to the ventricles, and the rhythmic action of the heart is now believed to be entirely dependent upon the contraction of these muscular fibers, and is not due, as was generally held, to the cerebrospinal or sympathetic systems The action of the heart is therefore automatic Uremia is responsible for a considerable number of cases of bradycardia These cases are markedly benefited by rest, a milk diet, warm baths and abundance of pure water The great majority of cases of bradycardia are due to diseases of the cord and brain In these cases the prognosis is hopeless The prognosis in other cases depends upon the cause—toxemias, neuroses, reflex, and convalescence from various diseases, etc

The cause, taken in connection with the dynamics of the heart, should enable you to prognosticate accurately Given a slow pulse, accompanied, upon slight exertion, by vertigo from cerebral anemia, cyanosis and dyspnea, your prognosis must of necessity be grave, but, on the other hand, as long as the slow, strong beats of the heart supply all wants of brain and body, the prognosis is favorable However, it can be stated broadly, that arhythmia is usually of grave import Occurring in children in connection with fever, it is strongly suggestive of tuberculous meningitis

The unequal pulse always demands a guarded prognosis, as it usually denotes an aneurysm involving the root of the subclavian artery, although it may be due to obliteration of the radial by injury or by some growth making pressure on the vessel At other times it it purely neurotic

It is beyond the scope of this paper to enter into details in reference to the many varieties of pulse and their significance I have endeavored but to point the way and to remind all general practitioners of medicine that "the proper study of mankind is man," and the more thorough our study of man, the more competent and successful practitioners we will become. I would not dissuade any of the younger members of the profession from the alluring fields of bacteriology, for medicine is under lasting obligations to the careful students of the lower forms of life, but let us never forget that it is by the art and not by the science of medicine that we gain our reputation, and, incidentally, our livelihood All can not be celebrated botanists, chemists, neurologists, bacteriologists and pathologists Let us take unto ourselves the homely proverb, *ne sutor crepidam judicaret* By availing ourselves of the labors of these men in special fields we will profit greatly, but our success as practising physicians, now, as formerly, will depend upon our close observation of all that concerns *homo bimanus*

Charles Darwin was astounded at the instantaneous and immense reputation his "Origin of Species" brought him He tells us in his modest way that he had done nothing but *observe* closely, aye, there is the secret, he had *observed*, closely, accurately, scientifically, the minutest detail As in natural history, so in medicine How many of us have eyes, yet see not, ears, yet hear not? Shakespeare spoke truly when he said 'Most poor things point to rich ends" There are men in our calling who have studied so carefully the stomach of the mosquito that they are able to tell you all the reasons why the malarial hematozoon prefers that particular viscus of that particular dipter to that of its gregarines or coccidia This is all very interesting and scientific, but we do not treat gastric catarrh of the mosquito By close observation of the laws of health and disease, we all may become qualified to practice the art of medicine successfully It is a well known fact that the the treatment of many diseases, notably pneumonia tuberculosis, malaria and pertussis, has not been crowned with better results since the microscope has introduced to us the Lilliputian armies that cause their pathology, nor have the most successful practitioners been those best versed in the pure realms of science The close observers have always, in every age, been the most successful physicians With Oliver Wendell Holmes I say

How blest is he who knows no meaner strife,
Than art's long struggle with the foes of life

A CASE OF ADIPOSIS DOLOROSA

Presented to the Section on Neurology and Medical Jurisprudence at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY AUGUSTUS A ESHNER, M D,
PROFESSOR OF CLINICAL MEDICINE IN THE PHILADELPHIA POLYCLINIC
PHYSICIAN TO THE PHILADELPHIA HOSPITAL ETC
PHILADELPHIA PA

In a paper read before the Philadelphia Neurological Society in 1891, Henry[1] reported the case of a married woman, 63 years old, in whom, at the age of

---

[1] Journal of Nervous and Mental Disease March, 1891, p 154

49, somewhat circumscribed, painful, fatty swellings appeared successively in various parts of the body. The patient was an immoderate drinker and had had epileptiform convulsions frequently in infancy. Menstruation had begun at 11 and had ceased abruptly at 35. Sensibility was impaired in proportion to the deposition of fat. The case was described as one of *myxedematoid dystrophy*, and for the condition the designation *par atrophy* was proposed. In a paper read before the American Neurological Association in 1888, Dercum[2] reported the case of a widow, 51 years old, in whom the arms began to enlarge at the age of 48 or 49 and were the seat of pain. Back, shoulders, arms and sides of the chest became the seat of huge pendulous masses, firm yet elastic, in places finely lobulated and feeling like bundles of worms. Menstruation had begun at 15 and had ceased abruptly at 35. Microscopic examination of a bit of tissue removed from one of the swellings disclosed the presence of only fat and connective tissue. The case was described as one of *subcutaneous connective-tissue dystrophy* associated with symptoms resembling myxedema. In a subsequent communication Dercum[3] reports in greater detail both of the foregoing cases, together with a third, describing them as "three cases of a hitherto unclassified affection resembling in its grosser aspects obesity, but associated with special nervous symptoms," and proposing for them the name of *adiposis dolorosa*. The third of these cases occurred in a widow, 60 years old, who had for many years had soft, fat-like masses or swellings in various parts of the body that were painful to touch. Cutaneous sensibility was diminished and the patient was demented. Death resulted from gradual failure of vital force and the thyroid gland was found to be enlarged, indurated and calcified. Death occurred also in the first of these cases and the thyroid was found likewise indurated and calcareous, although small.

In the article on adiposis dolorosa in 'A Text-book on Nervous Diseases by American Authors,'[4] Collins refers to six cases under the observation of Peterson and Loveland and to one under his own observation. He states that all of the cases but one occurred in women from 40 to 60 years of age, that in but one could a specific or alcoholic history be ruled out, and that in all a neuropathic predisposition was evident.

In a consideration of the treatment of myxedema, cretinism, exophthalmic goiter, obesity, etc., with thyroid extract, Ewald[5] refers to the case of a man, 47 years old, weighing 217 lbs., who presented a puffy appearance, with thick masses of fat about the nipples and the umbilicus and upon the neck, and pains resembling those of neuritis. Perspiration was scanty and the condition was suggestive of myxedema, though wanting in the characteristic features of this disorder.

Spiller[6] has reported three cases of adiposis dolorosa, all in women, two unmarried and aged 25 and 65 respectively, and the other married and 45 years old. In the first there were both diffuse enlargement and distinct painful swellings, with paroxysmal exacerbations. Menstruation was normal. In the second case the patient began to grow stout at 40 when menstruation ceased. For thirteen years there had been pain in the lower extremities, and for two years in the fatty tissue of the limbs and trunk, with paroxysmal exacerbations. The obesity had increased markedly since the advent of the latter pain. There were tenderness and pain on palpation, manipulation and pressure, and no anesthesia. The fatty accumulation was marked on the thighs, the calves, the abdomen, the nates and the back, and also in the arms though less in the forearms and absent from the feet and the hands. There was no special deposit of fat and no pain in the face or neck. The isthmus of the thyroid was exceedingly small. The third patient had been corpulent for twelve or thirteen years, following the birth of her last child. Pain had been present for years, recurring in paroxysms. Swellings appeared beneath the skin of the lower extremities, at first small, then larger and finally diminishing in size. Sensibility was preserved and the face was not involved. Improvement followed massage and the administration of thyroid extract. A cross section of muscle from one of these cases showed no appreciable deviation from the normal, except perhaps a slight enlargement of the nuclei.

To this small number of cases I am able to add a further one, and also the notes of a case kindly placed at my disposal by Dr. Dercum.

M. G., a married white woman, 48 years old, was admitted to the medical department of the Philadelphia Hospital June 6, 1896, and shortly afterward the following facts were elicited. Her mother had been dropsical and had died at the age of 86. Her father and one brother had been killed in war. Two other and older brothers were alive and well. A sister also was living at the age of 60 years. Another sister had died in a dropsical state. The sister and one brother were said to be stout, but within ordinary limits. A maternal great-grandmother also had been unduly stout. The patient related that she had suffered from attacks of erysipelas of the lower extremities on four different occasions, the first at about the age of 30, the second six years later, the third at some forgotten time after, and the fourth a year before coming under observation. She had borne five children, all delivered instrumentally. Of these one had died during birth and another of diphtheria; of the remainder one boy and one girl were spare and a daughter of 28 was stout. Her husband had died of pneumonia eighteen years previously. Menstruation had begun at the age of 13 years and had been regular and painless until the age of 41, recurring thereafter with increasing frequency and being attended with excessive hemorrhage. At the age of 35 the patient is said to have broken down from overwork and worry. At this time twitchings were observed, and a sense of such movements had persisted thereafter. After an interval of uncertain length the woman noticed enlargement of the abdomen. Then the lower extremities became involved, the increase in size extending gradually and progressively over the entire body, with the exception of the face and the hands and the feet. The patient had suffered a good deal from pains in the back, especially in the sacral and interscapular regions. The pain was intermittent and had set in with the accumulation of fat. For more than two years there had been a more or less constant sensation of beating in the head, and for a year or more ringing in the ears. There was no vertigo, and auditory perception was good. The appetite was preserved; it had never been excessive, and the patient had no preference for, nor had she indulged in special kinds of food. There was at times nausea and occasionally vomiting, the ejected matters sometimes containing blood. For more than a year the patient had been helpless, being compelled to lie abed and unable to move about. She occupied two single beds in the hospital and was scarcely able to help herself in any way.

On examination at the time of admission to the hospital heart and lungs were found to present no abnormity. The face was scarcely larger or fuller than that of a person of ordinary size. The circumference of the neck was 17 inches, of the bust 60 inches, of the waist 53 inches, of the abdomen 70 inches, of the arm above the elbow 21.5 inches. The temperature, taken for months at a time, adhered to the normal level; the respirations fluctuated between 18 and 32, averaging perhaps 24; the pulse ranged between 68 and 108, averaging about 84. The urine, examined repeatedly, displayed a specific gravity between 1019 and 1028 and, other than the presence of a small number of leucocytes, exhibited no deviation from the

---

University Medical Magazine, December, 1888, p. 140.

American Journal of the Medical Sciences, 1892, p. 521.

[4] Edited by Dercum, Philadelphia, 1895, p. 898.

[5] Berliner klinische Wochenschrift, Jan. 31, 1898, p. 238.

[6] Medical News, Feb. 26, 1898, p. 268.

normal On examination on June 18, 1897, the hands were observed to be well nourished, but of ordinary size The circumference of the forearms above the wrist was 7 25 inches, below the styloid processes 6 6 inches At the elbow there were marked creases on the dorsal and palmar aspects The circumference 1 inch below the flexure was on the right 13 75 inches, on the left 12 5 inches There was only a small growth of hair in the axillæ The mid humeral circumference on the right was 16 5 inches, on the left 16 inches The upper extremity was strikingly conoidal in form, with the base at the shoulder The fat of the neck was not markedly increased The breasts were large and extensive, though flat, falling in huge apron like folds The right appeared to be larger than the left and its pigmentation was the more pronounced The mammillary areolæ were marked, and also the tubercles The circumference of the trunk at the waist was 41 inches, at the level of the sacrum 59 inches The distance from the olecranon process of the ulna to the styloid process was 10 inches, from the acromion to the olecranon 13 75 inches The circumference at the middle of the thigh was 31 inches The distance from the outer

margin of the patella to the external malleolus was 16 inches and to the outer extremity of the inguinal fold 17 inches The circumference at the middle of the leg was 17 5 inches The right foot was 9 75 inches long, the left 10 25 inches The surface of the skin was mottled, purplish and cyanotic on the right side of the body, on which the patient lay The heart sounds were quite clear and distinct The tongue was broad, fissured and tremulous, the patient stated that it had always presented a similar appearance The ears were not enlarged The thyroid gland could not be felt The hair was soft and unctuous The skin also was soft, and perspiration was free The masses of fat yielded a cord like sensation to touch, and manipulation elicited tenderness The patient had received varied treatment, without appreciable effect For a time desiccated extract of thyroid gland was prescribed, 5 grains twice daily, but in a short time the patient declined to take the medicament, complaining, among other things, that she had been poisoned by some of the drugs she had received Subsequently she developed pronounced delusions and it became necessary to remove her to the department for the insane

While it may be objected that this case is lacking in some of the symptoms of adiposis dolorosa, as laid down by Dercum, it will be conceded that it is unlike an ordinary case of obesity The principal accumulations or deposits are nearest the trunk and they hang in conspicuous folds, while the degree of incapacitation for the simplest activity is extreme Pain has not been a prominent symptom and we have no knowledge of paroxysmal variations in the degree of enlargement, but the patient's memory was not reliable and her statements were at times wanting in positiveness The case is in some respects not unlike one reported by Laidlaw[7] as an example of *elephantiasis*, occurring in a woman, 45 years old, who in the performance of some laborious task at the age of 27, suffered an injury of the abdomen near the umbilicus The cutaneous and the subcutaneous tissues of the affected parts became reddened, swollen and infiltrated The acute symptoms soon subsided, leaving well-marked hypertrophy, which gradually diminished Two years later the left leg became covered with scales and enlarged, and the abdominal condition grew gradually worse Seven years after this the woman fell from a ladder and wounded the right leg above the ankle with a rusty nail Symptoms of lymphangitis developed from which recovery ensued Three months later th left leg was wounded as the result of a fall and it became inflamed and increased in size The enlargement extended upward, and in a short time the righ leg also began to increase in size The hyperplasti parts became the seat of cracks and fissures and indolent recurring ulcers The illustrations accompanying the report show great enlargement of the legs thighs and abdomen, with immense buttocks, ful shoulders, while the face, feet and hands were relatively small

As an instance of a further anomalous form of *obesit* may be mention a case reported by Adler,[8] occurrin in a mulatto, 53 years old, with a syphilitic history but with none of obesity in the family, who presente an enormous growth in the middle line at the back o the neck, two smaller bilateral masses symmetricall situated in the occipital region, another in the middl line below the chin forming an immense dewlap an extending up into the parotid regions, one in eacl groin absolutely symmetrical and projecting forwar as well rounded swellings A more diffuse fatty deposit was present on the arms and forearms Ther was one unilateral tumor over the left rectus muscl above the level of the umbilicus The several growth were movable and free from pain, while the overlying skin was tense and unadherent

I am indebted to Dr Dercum for the followin notes

A married woman, 36 years old, in excellent health and fre from physical abnormity, while standing in the aisle of a trolley car, was thrown to the floor as the result of a collision wit a heavy wagon and at once became unconscious She was sen home in a carriage and was subsequently unable to move without assistance Later she was able to sit up in a rolling chai and got about with the aid of crutches A miscarriage too place fourteen days after the accident The patient suffere greatly from pain When examined a year after the accident she could not stand without assistance although she coul walk with the aid of crutches Superficial pressure over the spine in the lower dorsal, lower lumbar and sacral regions and also over the coccyx induced pain, and deep pressure over the muscles of the back of the trunk in the lower dorsal and lumbar regions on the left side and in less degree on the right side, elicited tenderness Similar tenderness was noted also on the left side of the chest Transmitted shock caused pain referred to the lumbar region, flexion of the trunk pain referred to the same region, and especially lateral flexion to the left Attempts to extend the legs, with the patient seated on a chair, induced pain referred to the back of the legs and thighs The knee jerks were exaggerated There was some analgesia of the left arm, left leg and left side of the trunk, but no inflammatory or ovarian tenderness, and no limitation of the visual fields Upon the left forearm there were found seven or eight small swellings, varying in size from a small marble to a walnut, soft to the touch and apparently made up of fatty tissue These were exceedingly painful and tender on pressure The patient was positive that they had made their appearance some six weeks after her accident, when she became aware of the presence of several slightly swollen and tender places upon the left forearm These had increased in size and continued to be painful The patient suffered from occipital headache, from a sense of constriction of the head, from vertigo, at times from ringing in the ears and from backache, relieved by the recumbent posture She slept badly, having difficulty in getting to sleep and being disturbed by frightful dreams She felt worse in the morning on arising than at night on retiring She suffered from indigestion and chronic constipation Palpitation of the heart was frequent, especially after unpleasant dreams Micturition was increased in frequency, particularly at night. Perspiration was induced by slight exertion On examination, some nine months later, it was found there had been some subsidence of the symptoms indicative of spinal strain The painful masses upon the left forearm were still present and had undergone no appreciable change in size There were now noticed, in addition, several large, diffuse swellings upon the lower portion of the back and in the sacral region These were soft and painful and tender on pressure, and like the others, although larger

---

[7] Jour of Am Med Ass'n, vol xxvii p 14[illegible]

[8] Pacific Medical Journal September 18[illegible] p [illegible]

As defined by Dercum,[9] adiposis dolorosa is a disorder characterized by irregular, sometimes symmetrical, deposits of fatty masses in various portions of the body, preceded or attended with pain It appears about middle life or later and the larger number of cases have occurred in females In some there been an alcoholic history, in others a syphilitic history, in still others rheumatism may have been an etiologic factor, further, traumatism may be a provocative agency Nothing more definite, however, can be said of the etiology The principal manifestation is the presence of masses of fatty tissue of variable size, sometimes exceedingly large, variously distributed upon the trunk and the extremities, and the seat of pain sometimes spontaneous, sometimes induced by pressure or manipulation The affection may set in with pain of neuritic character and the swellings may undergo increase of size in paroxysms attended with exacerbations of pain The new fatty tissue has a boggy, soft, at times pultaceous and wormlike, feel Face, hands and feet are not involved In some cases sensibility is impaired The skin exhibits no gross changes Hemorrhages from mucous surfaces have been observed in some cases The disease is essentially chronic, with a tendency to be progressive in course The morbid anatomy consists, so far as is known, in an increase of fatty and connective tissue, with degenerative changes in nerves The thyroid gland has been found indurated and calcareous The disorder differs from other forms of obesity in the presence of pains and sometimes of impaired sensibility, and from myxedema in the freedom of face, hands and feet and in the absence of the pronounced mental and trophic manifestations of that disease In treatment good results may be expected from administration of thyroid extract and from massage

SOME CONSIDERATIONS OF THE SYMPTOMATOLOGY IN THE DIAGNOSIS OF TABES

Presented to the Section on Neurology and Medical Jurisprudence at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY J M AIKIN, M D
Neurologist to the Methodist Hospital, and Clinical Lecturer on Diseases of the Brain and Nervous System, in the Creighton Medical College
OMAHA NEB

About two years since, a physician doing a large practice in general medicine, impressed me wonderfully with the statement that seven cases of locomotor ataxia had come under his observation and treatment during the preceding three months Of these, five had completely recovered, one died after three weeks' illness, from inability to swallow food, and one was convalescent My disbelief in the curability of tabes induced me to seriously consider the *alleged* prevalence of the malady as truly alarming, whereupon I began investigating vital statistics from several of the large cities of the United States, and found that in the whole number of deaths reported as due directly to some form of nervous disease, only about 1 2 per cent was accredited to locomotor ataxia Reviewing some cases neurologic in character, that I was permitted to observe and treat during the five years preceding 1897, the shortest period for observation in any one case being one year, I was unable, in seventeen out of twenty three alleged cases of locomotor ataxia, to verify the diagnosis

The observation of symptoms in disease is quite as necessary as the accumulation of evidence in a legal case, and a knowledge of their meaning is certainly no less imperative in forming right conclusions, than is the action of a judicial mind in estimating the value of testimony in a case at law Moreover, clinical evidence in disease is quite as truthful as testimony at the bar, while microscopic findings certainly can not be more liable to error than twelve jurors, each exposed to ulterior influences

During the past few years, the surprising advance of medical minds in the pathogenesis of nerve tissue per se is without a parallel in any branch of medicine, or period in its history I therefore proceed—with a confidence maintained not alone by self gleaned facts, but supported by truths, the authenticity for which many medical men in this Association deserve honorable mention—to assume that neurologic medicine has established a basis from which a proper estimate of the evidence, in at least the more common diseases of the nervous system, may render serious mistakes in diagnosis unpardonable

The activity shown by American physicians recently, in placing before the public so many excellent text-books and essays, treating especially of the features of nervous diseases, gives assurance irrefutable that those already in active practice have easy access to the latest information on this class of diseases

The American propensity to observe, and inquire into the meaning of the thing seen, has placed him as a leader of the world in his observation and knowledge of the phenomena of the nervous system Clinical evidences in individual instances of nervous diseases presenting varying symptoms, are accumulating and must accumulate until, by comparison and elimination, we arrive at the characteristics of a type, as has years since been done by internal medicine in some of the exanthematous diseases—e g , measles and scarlet fever—which shall be accepted and accorded a place in medical nomenclature

---

[9] Twentieth Century Practice, vol xi, p 554

Early observers discovered and recorded symptoms indicative of some grave disorder of the nervous system, but not until about half a century since was any exact account given locating the pathology productive of these symptoms in the spinal cord, thereby elevating the group to the dignity of nosologic consideration, and ten years later the name "locomotor ataxia" was coined This term was an unfortunate one, in that it fails to convey anatomic location, or character of the neural changes, but further, in that it does afford the incompetent or careless observer a convenient peg on which to hang every case of nervous phenomena presenting sensory disturbances with pain, or difficulty of locomotion unless by constantly watching the placing of the feet If perchance, too, the knee-jerk is absent, the testimony closes and the label "locomotor ataxia" is attached

No member of this ASSOCIATION would venture a diagnosis on the foregoing clinical history, but I doubt not many physicians present have seen and treated patients whose lives had been rendered more miserable by long-continued treatment for locomotor ataxia, when in reality they were suffering from some other, and possibly curable, malady of the nervous system The chronicity, too, of tabes, carrying the patient through periods of time measured only by months and years to the full development of its clinical picture, may so separate the sign-boards along the route, as to allow the most experienced clinician an opportunity for error in conclusions, whereas in our observation of acute diseases such errors are less likely, because we are accustomed to reviewing the whole course of the malady in a few days, or at farthest weeks, of time No other chronic disease of the nervous system is so much talked about by the laity, lawyer or incompetent physician, and like ovaritis and appendicitis, the frequency with which tabes is diagnosticated gives cause for doubts as to a right observation and interpretation of symptoms The indefiniteness of the name enhances its popularity, and the chronicity of the malady makes it a convenient receptacle for all symptoms suggesting cord disease, the incorrectness of which may be difficult to demonstrate Moreover, the cerebral vagaries and spinal symptoms incident to a depreciated condition of the nervous system may cause—not alone in the inexperienced physician—a suspicion of tabes, thereby casting an irreparable gloom over the mind of a person afflicted with the modern and euphonious neurasthenia

Early recognition of tabes is desirable not alone in our treatment, but for prognosis, yet the wider our observation of cases, the greater is our surprise at the multiplicity of the symptoms and their order of appearance often causing the most accurate observer some anxiety in making a diagnosis, until he has made repeated examinations, or can at one sitting get a complete and intelligent clinical history covering a long period of time, for until degeneration has begun in the cord, symptoms presenting indisputable evidence of the malady are wanting The sensory symptoms, so often preceding any motor manifestations, are frequently regarded as rheumatic, and if accompanied by digestive disorder with occasional vomiting, may cause our attention to be fixed on chronic gastritis with muscular rheumatism We would be surprised at our easy transition to a different conclusion, if on closer examination we have revealed to us a fact, that the pains are confined to the lower extremities, intermittent in time, and lancinating in character while the vomit appeared at intervals wholly independent of the time when food was taken, and was not immediately preceded by nausea or gastric distress In the event of such evidence, we may justly suspicion a case of tabes Moreover, symptoms essential to the complete clinical picture, but as yet not fully developed, or having appeared, are forgotten or considered by the patient as being wholly unimportant, may be brought into view by a careful retrospective history of the case If the ataxic condition is uppermost in the patient's mind, and is especially annoying during his nocturnal excursions, he may be entirely unconcerned about the occasional darting pains in the bladder, bowels, rectum or anus, and ready to explain the paroxysms of dyspnea or motor impairment of the glottis as a result of "a little cold," but in the absence of pulmonary cardiac, cystic or bowel disease, such symptoms having existed or now present should form collateral testimony of positive value in the tabetic If peripheral limitation of vision is noticed, the onset being rapid, then gradually retarding in progress until months pass before perceptible changes in the field of vision are noticed the seeming stay of progress should not lend strong hopes for a favorable issue, since gray degeneration of the optic nerve in tabes is first rapid, then retarded and usually centripetal in course Pupillary reaction to light is lost As between the hyperesthesias, anesthesias, paresthesias and pains of tabes, we may rightly regard the latter as the earliest to appear, most annoying in character, and persistent in duration They are lancinating, come without warning and are prone to greater severity at night, but unaccompanied by febrile disturbance and not of the short duration commonly seen in the early stage of a multiple neuritis Impairment of sensation, though most frequent and of greatest severity in the lower extremities, may first appear elsewhere

In the records in my case-book, appears the evidence in the case of a physician under my care for four years, whose early pains were in the back and hip muscles, he also complained of a sense of constriction of the body, but unmarked by a zone definitely localized If anesthesia be present in any case under observation it is interesting to note its extent for in tabes it will invade the deeper tissues as well, and muscular contraction by the electric current, or the pains of pleurisy, may be unfelt Another point of great value in differential diagnosis is the presence of inco ordination of movement, without loss of motor power, this is a characteristic of tabes and may for months or years precede all sensory disturbance

Again the early manifestations of motor disorder may have been so lightly considered by the patient as to have escaped his notice or been forgotten when suffering from subsequent lightning pains this can be easily accounted for because motor power was not impaired, but the evidence is of paramount importance when we remember that ataxia in tabes differs in nowise from inco ordination incident to combined lateral and posterior column sclerosis but in this latter, a history of muscular weakness, with *early* exaggeration, then subsequent loss of knee jerk, is the rule, whereas in tabes increased knee jerk never occurs, and its disappearance is an early symptom

Absence of the knee-jerk and the existence of ataxia are essential features in the clinical picture of tabes, yet their appearance in so many non-tabetic affections of the nervous system tends to nullify their importance in differential diagnosis, unless they are stable, and supported by other evidence.

Articular enlargement, pointed out by Charcot and insisted upon as frequently an early symptom, has been verified by several medical gentlemen of note, and merits our careful observation, as its presence may be the one symptom needed to the unfolding of a true case of tabes. I have been unable to verify, and am unwilling to accept as true, the statement recently current in several medical journals, that absence of pain in the popliteal space, on extension of the leg with extreme flexion of the thigh, is an early and positive proof of tabes, since the same clinical effect may be produced by a traumatism or disease limited to the anterior crural nerve. If of differential diagnostic value at all, its existence must be bilateral. Moreover, the absence of knee-jerk as a common factor in either affection cancels its diagnostic value, while motor weakness and muscular wasting—if present—negative any tabetic assumption. In a large percentage of tabetics the ataxia is a late symptom, and in such cases it is doubtless true that the lancinating pains are more constantly accompanied by optic atrophy and arthropathies.

Localized sweating was a noticeable feature in two cases under my observation. The first was unilateral in extent, the second was limited to the face, neck and arm of one side. The first one of these was seen by Dr. C. K. Mills of Philadelphia, who verified our diagnosis and noted this peculiar vasomotor disturbance. That this symptom belongs peculiarly to tabes remains an open question, for other cord or spinal nerve root affections may find *direct* expression in the same symptom or through the sympathetic system. In either case its differential diagnostic value becomes void.

THE THERAPEUTIC VALUE OF THE VARIOUS ANTI-MALARIAL AGENTS.

Presented to the Section on Materia Medica, Pharmacy and Therapeutics at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY J. R. GILBERT, M.D.
DALLAS, TEXAS.

Under this title we must at least give a limited number of drugs a hearing, though it be near impossible to consider each that has been given as an anti-malarial agent, for most, if not every drug found in the materia medica, has at some time received credit for its anti-malarial effect upon the human economy.

Before we enter upon the therapy of the subject of malaria, we should know what the pathology of the trouble is, so that we may intelligently administer those remedies that will the earliest counteract or destroy the pathologic condition that exists, with the least detriment to the human organism.

We know that when a person is inoculated with this bacillus malariæ, he will surely have a malarial fever. While there is a slight difference in the germs that cause the various forms of malarial fever, they are practically the same for the agent that will destroy one will also destroy the other. There have been a variety of opinions expressed as to how this organism enters into the blood. Some are earnest advocates of the avenue of entrance being the air-passages, and others the alimentary canal. And those who calmly sum up all of the evidence and weigh it well in the balance, must be forced to the conclusion that the malaria bacillus enters both by the lungs and alimentary canal. One may become infected from water, another from food, and he who sleeps in a low altitude inhabited by this germ will most surely become the victim of this familiar disease, malaria.

Since we know what our condition is, when to look for paroxysms, and their cause, the next thing to consider is whether we can find, in our great armamentarium, an agent that we can diffuse into the blood of our patient, which will destroy the bacillus, and at the same time not do material damage.

When we look over the past, we find the housewife and the physician both endeavoring to administer to the wants of the wretched mortal who is apparently trying to shake the cords out of the old bed. One in his or her effort is drenching the poor sufferer with hot teas when he is already afire, another giving some herb that *they say* is good for *chills*. On and on they went, until at last, by mere accident, the great specific was discovered.

There are but few diseases for which we possess anything near a specific, but to the great relief of suffering humanity, we have ever ready in our armamentarium that drug which, when administered so that it may become diffused into the blood, will destroy the *bacilli* malariæ, and do no hurt to the cells that go to make up the human body. This drug that is known in every household is *quinin*. Now, since we have a specific for the disease in consideration, it only remains to consider how it should be administered to attain this end and the helpful adjuvants, and last but not least, what we are to do when the patient's idiosyncrasy positively prohibits the use of our great boon to humanity.

Quinin, the great prime agent, has been administered in many different ways, and every recent textbook gives the various methods of administration and suggests the best way of administration, and those who are without experience in treating malarial fevers will find there are those minute points of technic that are only acquired by experience that they must learn.

I will say nothing of the way to administer this drug by the stomach, because I can add no more than all good, recent authors have laid down as rules to follow. I will make a few suggestions on the two much-neglected methods of quinin administration, viz., hypodermic and intravenous. It is only to those who live in the intensely malarious districts that these two methods will be of much interest practically, for stomach administration will suffice in all mild cases, as this drug will be taken up by assimilation, but when the physician is called to see a patient with a malarial paroxysm that is commonly called a congestive chill, and perhaps has reached that state of malarial hematuria and hematemesis where absorption or assimilation through the natural avenues is impossible, we must then reach our conclusion very rapidly for the bacilli malariæ are causing such a combustion in the blood that the life of the individual will soon be gone, unless we can introduce into the blood that agent which will destroy the bacilli.

Hypodermic use first suggests itself to us, and when we take the soluble salts of quinin, such as the muriate, we can usually get enough of the drug into the circulation to destroy the great adversary. But sometimes we are too late to depend upon even the hypodermic injection into the subcutaneous tissue, for death is so near at hand that the circulation is not sufficient to carry the drug into the volume of blood of the body from the capillaries In this our dire extremity, if we inject a quantity, say a half-dram into a vein, and use circulatory stimulants, we may often rob the grave of a victim

The great object to be ever kept in view, for all know how to administer, is that if you can get this great germ-destroyer into the blood in time, where the germ of malaria is only found, you can save that poor mortal from an untimely grave Then it becomes our duty to familiarize ourselves with the methods of hypodermic and intravenous medication •

For those who have the idiosyncrasy for quinin we will find salicin and salicylate of soda of great advantage When given in large doses, it will have quite a satisfactory result But fortunately for all, we seldom find a patient who will not stand some of the salts obtained from the Peruvian bark

In old chronic cases it is necessary to give something else attention beside the disease germ For after a person has long been the victim of malaria, he is sure to suffer from some weakened organ that has received the brunt of the burden in carrying the great and complex machine through the siege of poison that has been pouring acid on the polished plates and rusting the surface until it has overworked and loaded up the liver, kidneys and spleen, until a few more months among this poison would return them whence they came This brings us, not to anti-malarials, but to that part of our armamentarium marked alteratives, and from them we select those best suited to the individual case Arsenic and iodin will often be our selection, for in them we find that while we restore organs to their natural function we brace and tone up the nervous system, that has been shaken around for months, and made subservient to all emotional and outside influences

There are other alteratives that will to some degree answer our purpose, but those are exceptional cases where arsenic and iodin will not render most good in chronic malaria So, in our summing up of the therapeutic value of various anti-malarial agents, there are few drugs we need consider We have the specific for the malarial poison, and by closely studying the complications and administering to them properly, we will relieve many who now suffer from crippled organs caused by long-continued malarial fevers

---

TREATMENT OF CONGENITAL TALIPES

Presented to the Section on Diseases of Children at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo June 7-10 1898

BY HARRIET E GARRISON, M D

DIXON ILL

As I am not an orthopedic surgeon, in assigning me the task of preparing a paper upon the treatment of congenital talipes our worthy secretary has given me a burden which I feel unable to carry What I desire to present to this society are the results obtained in the immediate treatment of the very few cases of congenital talipes which have occurred in my obstetric practice It does not usually fall to the lot of a country practitioner to have many cases of congenital talipes, but we meet them occasionally at the most unlooked-for times and places, and it behooves us to be prepared for the unexpected

One of the great benefits to be derived from a country practice is the necessity for alertness to recognize and preparation to cope with any form of disease or surgical emergency, for at the time there is the greatest demand there is the least opportunity to procure a skilled specialist Unless a physician is willing to give patient study to every branch of medical science he should never become a country doctor For twenty years I practiced obstetrics in my general country work without meeting a case of talipes, and then in fifteen months I had three cases

Case 1 —I was in the country, six miles from my office, and although I bathed the child I did not notice anything abnormal The second day the father visited my office to tell me he thought one of the baby's ankles was out of joint I immediately visited the child and found the right foot abducted to the third degree of talipes There must have been an increase in the abnormal position since my visit or I could not have failed to notice it in the bath The abduction had produced luxation of the joint, as I could feel the articulating surface of the tibia grate upon the oscalcis and astragalus as I made gentle pressure on the joint with thumb and forefinger of the left hand, while I slowly drew the foot into position with my right hand The foot and leg had previously been bathed in very warm boracic acid solution and, while held in position slightly adducted, was bandaged lightly with a narrow gauze roller bandage from the toes to near the knee The bandage was then dampened and a little plaster of Paris dusted over it and allowed to dry while the foot was held in position The dressing was left in position two weeks and then was removed by the mother The mother was directed to keep watch of the baby's toes, that they remained the right color, that there might not be any danger from the pressure, and she was instructed how to apply gentle massage to the joint and adductor muscles every day after the bandage was removed I did not see the child until it was nineteen months old, when it was brought to my office for treatment for the ankle, which was swollen and tender, from a wrench which had been given it by the child catching its foot in between two boards The faithfulness with which the mother had carried out the massage treatment could be seen in the superior development of the muscles of the right leg over those of the left There was still slight extension of the foot on the ankle, but not as much as in the left leg The child had walked from the twelfth month This extension of the foot on the ankle and a slight tendency of the shoes to wrinkle on the inside was all that remained of the talipes As the child was wearing cloth buttoned shoes I advised a well fitting pair of leather, laced, and if these wrinkled, to have the inside further strengthened by a piece of stiff leather

Case 2 was five miles in the country in another direction from No 1, and was a case of talipes calcareus, with the extension surface of the toes resting against the foreleg this was accompanied by flat foot The outer and inner extensor tendons of the foot were contracted until they stood out like whipcords, and the deformity seemed due to this contraction and a little displacement of the fourth tarsal bone The foot could be easily brought into position, which was all the treatment given on the day of birth, with direction to the nurse to draw it into position whenever the baby received attention As there was no improvement on my visit the second day, I replaced the tarso metotarsal articulation, applied a pad of folds of gauze over the joints and bandaged from toes to above the ankle while the foot was in correct position This held the foot properly and the nurse was directed to keep it on as long as it stayed in place, but to notify me as soon as there was any appearance of displacement of the foot. I saw no more of the child until it was over five months old, when I went to the house for the purpose of inspecting the foot, and could not tell which foot had been deformed, as they were both straight and used with the same freedom and correct movement

Case 3 was double equino-varus of the first degree, complicated with bow legs and knock knee As the child was given in care of a trained nurse and as she did not think the condition serious enough to need any attention, nothing was done until the child was a month old, when I was called to clip the fremum linguæ for tongue tie At this time the mother called my attention to the fact that when the baby contracted its feet they turned in and never out. I pointed out the curvature in the legs and tendency of the knees to come together and advised a system of massage to strengthen the muscles of the legs In the course of six weeks, the mother told me that the feet were just as likely to turn out as in when flexed At the present time, six months later, the legs are very much straightened and there is no appearance of talipes

It hardly seems worth while to dwell on the probble cause of this condition in the three infants, but the same factor was present in all three—mothers below the normal and fathers tall This was especially noticeable in Case 3, as the mother's regular weight is 95 pounds and father's 175 The child weighed 8 pounds and was 19 inches long Cases 2 and 3 both had a prominent vertebra The twelfth dorsal vertebra was prominent, as though the spine might have been sharply flexed at this point during intra-uterine life In these cases the mothers were instructed to apply extension to the spine every night by placing the child across the knee with the shoulders and hips suspended and at the same time to apply gentle massage the full length of the spine and legs I have never found a mother who was too careless or lacked sufficient intellect to apply the massage systematically, after the benefits to be derived from it had been explained

In the treatment of congenital talipes my experience leads me to believe that the earlier it is begun the more easily the balance between the antagonizing muscles is restored and that every child's feet should be critically examined to see if the muscle-balance is even, and if not, efforts to restore it should begin immediately

---

RECENT EXPERIENCES IN MILITARY SURGERY AFTER THE BATTLE OF SANTIAGO

On Board the Hospital Ship "Relief," July 22, 1898

WOUND INFECTIONS

Military surgery is no more nor less than emergency surgery in civil practice The surgeon in daily practice has learned long ago that every accidental wound must practically be regarded and treated as an infected wound In this respect the military surgeon of today has the advantage over his colleague in civil practice in knowing that the small caliber bullet inflicts wounds which *per se* are more often aseptic than septic Our recent experience in Cuba has shown that the small jacketed bullet seldom carries with it into the tissues clothing or any other infectious substances Most of the wounds of the soft tissues, uncomplicated by visceral lesions, which in themselves would become a source of infection, healed by primary intention in a remarkably short time If infection followed it usually did so in the superficial portion of the wound in connection with the skin, and what is more than suggestive, the wound of exit was more frequently affected than the wound of entrance This can be readily explained from the larger size of the wound and more extensive laceration and tearing of the tissues In many of the cases ideal healing of the wound did not occur, owing to a subsequent limited superficial suppuration of the wound The deep tissues were seldom implicated in such cases I have reason to believe that some of the compound fractures which are now suppurating had such a source of infection, that is, the extension of a superficial infection to the seat of fracture Two weeks have now elapsed since the battle of Santiago was fought and we are now in a position to inquire more critically into the manner in which the wounds became infected The many failures in protecting the more serious wounds against infection are attributable to three principal causes 1 Inadequate supply of first dressing 2 Faulty application of first dressing 3 Unnecessary change of dressing The medical officers with the regiments and in the field hospitals were hampered in their work by an insufficiency of proper material The rapidity with which the invasion was planned and executed, the difficulties encountered in transporting the hospital supplies to the front and the unexpected large number of wounded readily explain the lack of dressing material when it was most needed Many of the dressings were too small and not sufficiently secured to keep them in place in transporting the wounded from the front to the field hospitals As a rule, not enough attention was paid to the immobilization of the injured part, an important element in securing rest for the wound and in guarding against displacement of the dressings It is a source of regret that plaster of Paris dressings were not more frequently employed in the treatment of gunshot fractures of the extremities Another very palpable evil in causing infection was the too common practice of unnecessary change of dressing The transfer of patients from one surgeon to another could not be avoided Patients brought from the first dressing station to the field hospital usually were subjected to a change of dressing and, when a few days later they reached the General Hospital at Siboney, they had to undergo the same ordeal and often not only once, but as often as they came into the hands of another surgeon Patients not thus treated were dissatisfied, as the laymen are still laboring under the erroneous impression that the oftener a wound is dressed the quicker it will heal It is difficult to eradicate such a deep rooted and time honored belief, and patients will continue to clamor for a change of dressing, and the good natured, hard working surgeons only too often yield to such unreasonable requests The evil of meddlesome surgery has become very apparent during our brief Cuban campaign and has taught us an important lesson that must be heeded in the future Our military surgeons must learn to realize the value and importance of first aid dressing In all cases where the first examination does not reveal the existence of complications which require subsequent operative treatment the diagnosis tag should convey this important instruction "*Dressing not to be touched unless symptoms demand it*" Such instruction is significant and must be followed to the letter by all surgeons in subsequent charge of the patient

I am satisfied more than ever of the necessity of including in the first aid dressing package an antiseptic powder For years I have used for this purpose a combination of boracic acid and salicylic acid, 4 1, with the most satisfactory results I am also partial to sterile absorbent cotton for this particular purpose, as it constitutes a more perfect filter than loose gauze A teaspoonful of this powder dusted on the wound forms with the blood that escapes and the overlying cotton a firm crust, which seals the wound hermetically Should the primary dressing become saturated with blood, the same powder should be dusted over the wet dressing, and an additional compress of cotton is added to the dressing After the first dressing has been applied it should not be removed except for good and substantial reasons Much can be done in the after treatment in the way of adjusting the bandage and in immobilizing the injured part, but the first dressing must remain unless local or general symptoms set in which would warrant its removal Malaria and yellow fever, that crept in upon us so insidiously, are responsible for many unnecessary changes of dressing The appearance of fever in a wounded man naturally leads to the suspicion that there is something wrong in the wound Many dressings were changed on this ground, nothing abnormal was found in the wounds, and a day or two later the nature of the fever was recognized and the patients were either given quinin or were sent to the yellow fever hospital, in accordance with the diagnosis made *Every change of dressing, more especially in military practice, is attended by risk of infection and must be scrupulously avoided, unless local or general symptoms indicate the existence of complications which demand surgical intervention* In writing the above it is not my intention to cast any reflection on the work of our surgeons, on the contrary, I willingly bear witness to the ability, faithfulness and unselfishness with which they have done their duty A better and more conscientious group of medical officers it would be difficult to select anywhere The results on the whole are excellent, but I am hopeful that they can be improved in the future by placing more stress and attention to the value and importance of the first dressing, and wish to repeat again and in a most forcible way the language of the late Professor von Nussbaum "*The fate of the wounded rests in the hands of the one who applies the first dressing*" If this is true in civil practice, its meaning can not be misinterpreted in military surgery

EFFECTS OF BULLETS ON THE SOFT TISSUES

In recent cases the small tubular wound made by the Mauser bullet was surrounded by a narrow zone of contused tissue, and the wound space itself filled either with liquid or coagulated blood A few days later the wound itself was found surrounded with an area of suggillation, which varied in extent according to the nature of the tissues and the amount of extravasation In cases in which the bullet passed through the tissues some distance, and not far from the surface of the skin the location and direction of the wound canal was indicated by discoloration of the skin a few days after the injury occurred In a number of cases of aseptic wounds in which the bullet had lodged in the tissues and was removed a week or ten days later, I had an opportunity to study the remote effects of the injury on the tissues In all cases the swelling of the tissues at this time had nearly or entirely obliterated the tubular wound the location of which was indicated by a dark discoloration, parenchymatous extravasation, remains of fluid or coagulated blood, and a limited area of edema and infiltration These conditions served as a useful guide in following the course of the bullet The bullet itself was usually found loose in a small cavity filled with liquid blood or blood serum, while a more extensive zone of infiltration indicated the early stage of encapsulation I have no further doubt but what the new bullet will become encapsulated and remain harmless in the tissues, as readily or more so than the old fashioned leaden bullet In isolated cases late suppuration at the seat of the bullet resulted in the formation of a circumscribed abscess, a complication which aided the surgeons in locating, finding and removing the missile It was a surprise to us all to find that in more than 10 per cent *of all the wounded, the bullet was found lodged in the tissues*, a vastly greater number than we had any reason to expect The reason for this became apparent when we began to study the condition of the bullets removed A large proportion of the bullets removed were found deformed, showing that they were deflected bullets, which had struck a hard object or passed through a resisting medium before they reached the final object for which they were intended The ground upon which the battle was fought is stony and covered with trees and thick underbrush, furnishing the most favorable conditions for deflection of the missiles Some of the firing was done at a great distance, so that occasionally a spent ball was found in the soft tissues without injury of the bones Such a bullet is shown in Fig 1 The bullet is a nickel encased Mauser projectile, natural size, the jacket perfect, and was removed from behind the tibia about four inches above the ankle joint It entered the calf of the leg below the popliteal space and never touched the bone Fig 2 represents the same kind of a bullet, the point flattened and mushroomed, removed from the head of the tibia This bullet was probably fired from a great distance, and the deformity was produced by the bone Figs 3, 4, 5, represent a nickel clad bullet very much deformed It was found lodged in the deep tissues of the thigh about two inches from the wound of entrance, slightly overlapping the femur near the middle of the shaft The bullet evidently struck a stone behind its point, and was deflected before it entered the tissues It was much flattened and curved Fig 3 shows the convex side point of bullet and jacket perfect Fig 4 shows the edge and curve of the bullet Fig 5 represents the convex side, showing a wide rent in the jacket indicated by the dotted lines, the lead exposed between them Figs 6, 7, 8, illustrate the deformity of a large caliber brass clad bullet As the bullet was removed from the soft tissues from a wound without bone injury, the deformity must have been caused outside of the body The bullet is flattened on one side from a point near the tip to near the base of the lead core Fig 6 shows the convex side, behind the last transverse groove the lead is exposed Fig 7 illustrates the flattened side of the dotted line, indicating a defect in the brass jacket Fig 8 shows the margin of the bullet and the location and extent of flattening As the Spanish army is armed exclusively with the Mauser rifle, the weapon from which this bullet was fired must have been in the hands of a volunteer, or possibly a Cuban

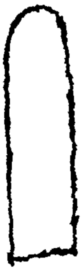


Fig 1

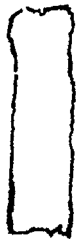


Fig 2

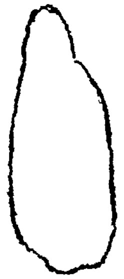


Fig 3

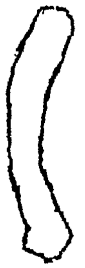


Fig 4

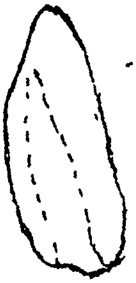


Fig 5

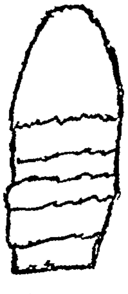


Fig 6

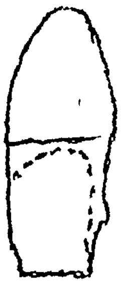


Fig 7

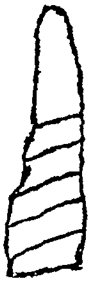


Fig 8

THE VALUE OF THE X RAY IN MILITARY PRACTICE

The use of the probe as a diagnostic instrument in locating bullets in modern military service has been almost entirely superseded by dissection and the employment of the X ray If from the nature of the injury and the symptoms presented the bullet is located in a part of the body readily and safely accessible to the knife and it is deemed advisable and expedient to remove it, this can often be done more expeditiously and with a greater degree of certainty by enlarging the track made by the bullet than by relying on the probe in finding and on the forceps in extracting the bullet If, as is often the case, the whereabouts of the bullet is not known, its presence and exact location can be determined without any pain or any additional risks to the patient by the use of the X ray All of the bullets removed on board the hospital ship *Relief* were located in this manner Dr Gray, an expert in skiagraphy, who has charge of the scientific work of the floating hospital, has been of the greatest service to the surgeons in enabling them to locate bullets and in guiding them as to the advisability of undertaking an operation for their removal His large collection of skiagraph pictures will also furnish a flood of new light on the effects of the small caliber bullet on the different bones of the body Dr Gray's work will constitute an essential and enduring corner-stone of a much needed modern work on military surgery The skiagraph has enabled us to diagnosticate the existence or absence of fracture in a number of doubtful cases in which we had to depend exclusively on this diagnostic resource In fractures in close proximity to large joints the X-ray has been of the greatest value in ascertaining whether or not the fracture extended into the joint In one case of gunshot wound at the base of the thigh in which the bullet passed in the direction of the trochanteric portion of the femur, opinions were at variance concerning the extent of injury to the bone Some of the surgeons made a diagnosis of fracture while others contended that there was no fracture but believed that the bullet had made a deep groove in the anterior portion of the bone and had possibly opened the capsule of the joint at the same time The X ray picture clearly demonstrated the absence of fracture and the existence of a deep furrow with numerous fragments on each side The X ray apparatus also proved of the greatest practical utility in showing the displacement of fragments in gunshot fractures of the long bones, which enabled the surgeons to resort to timely measures to prevent vicious union The fluoroscope has greatly added to the practical value of skiagraphy In the light of our recent experience the X ray has become an indispensable diagnostic resource to the military surgeon in active service, and the suggestion that every chief surgeon of every army corps should be supplied with a portable apparatus and an expert to use it, must be considered a timely and urgent one

THE WOUNDED OF THE BATTLE OF SANTIAGO

It will be of interest to the profession to learn something definite of the nature of the wounds and their more remote results on the victims of Spanish bullets in the battle of Santiago Two weeks have passed away since the battle A considerable number of the wounded have died since, and many have left for the United States on the *Olivette*, *Solace* and transport ships Among the 130 wounded now on the way to their homes on the hospital ship, *Relief*, I have selected a number of cases of more than usual interest, for the purpose of studying the effects of the small caliber bullet, immediate and remote, on the different organs and regions of the body It is my intention to give the course of the bullets by marking on the diagrams accompanying the report of each case, the wound of entrance and exit A study of the diagrams will show that deflection of the bullet in the body is exceptional As a rule, the wound canal was in a perfectly straight line from one wound to the other By following the track of the bullet it is not difficult to determine the organ or organs implicated in the injury I shall classify the cases so as to embrace gunshot wounds of 1 the head, 2, the neck, 3, the spine, 4, the chest, 5, the abdomen, 6, the extremities

GUNSHOT WOUNDS OF THE HEAD

To my own knowledge, a number of gunshot wounds of the head that survived long enough to be transported to the general hospital at Siboney, died within twelve days after the receipt of the injury In all of the cases intracranial infection was the immediate cause of death Encephalitis and leptomeningitis constituted the fatal complications The beginning of the intracranial inflammation was always announced by cerebral hernia, which in size was proportionate to the extent and intensity of the inflammatory process The surgical treatment resorted to in most instances proved powerless in limiting the infection If these cases had been studied with a little more care during life, and if postmortem examinations had been made more frequently, valuable material could have been obtained for the advancement of the as yet imperfectly developed science of cerebral localization.

Case 1—Fred Shockley, Company D, Tenth Cavalry, wounded July 2 When injury was received the patient was lying on his abdomen with chest and head extended at the base of the ridge occupied by the enemy, which position readily explains the unusual course of the bullet The bullet struck the occipital base at a tangent, producing a comminuted fracture with depression, it then made a deep groove in the back of the neck and then re entered the body on a level with the first rib to the left of the seventh cervical vertebra, passed through the chest and escaped in front through the second intercostal space, a little to the left of the mammary line (Fig 9) Soon after the injury was received he coughed up a small quantity of blood, no hemorrhage since or any indications of pneumothorax, pneumonia or pleuritis The chest wounds healed by primary intention At first had convulsions for a few moments, no loss of consciousness, but clonic spasms of both arms At present intellect is unimpaired, has some headache and a sensation of throbbing in the head, some impairment of motion and sensation of right leg and complete loss of motion of toes of right foot, has some pain in eyes and slight dimness of vision

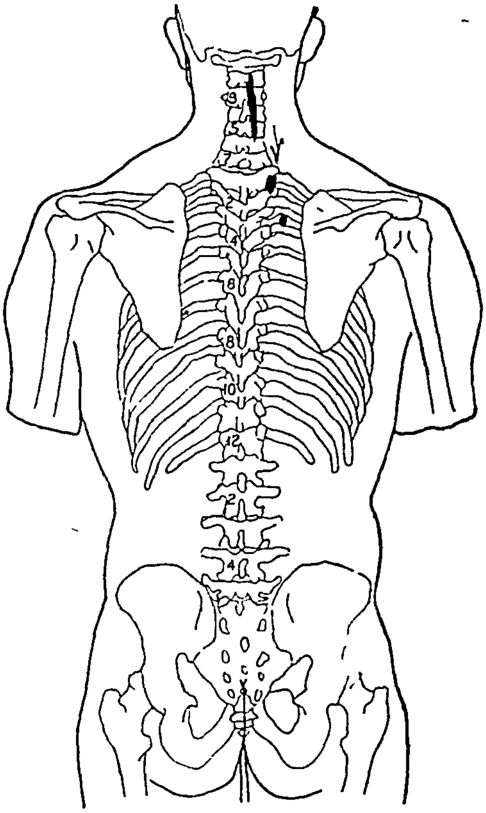


Fig 9

Case 2—Patrick Ward, Company I, Third Cavalry, admitted from hospital at Siboney to hospital ship, *Relief*, July 11 Injury probably received in the same manner as in Case 1 A large defect in the occipital bone marked the wound of entrance and exit in the skull, the opening enlarged by operation The linear wound below, and extending as far as the last cervical vertebra, was undoubtedly made in following and removing

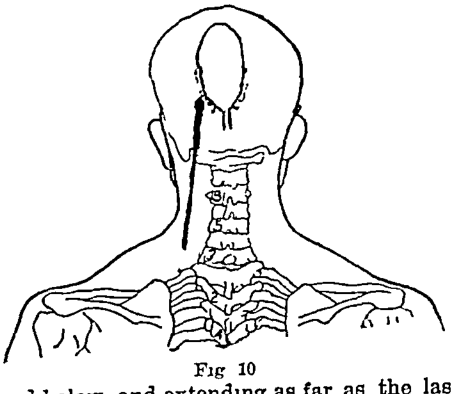


Fig 10

the bullet The cranial defect and course of bullet are outlined in Figure 10

A cerebral hernia projects from the opening, and a deep seated cerebral abscess was recently discovered, opened and drained In part the hernia is covered by skin Both parietal bones are the seat of a comminuted fracture Mental faculties not impaired, no focal symptoms The patient is losing strength rapidly and will soon succumb to the intra cranial lesion

Case 3 —Jerome Russel, Company A, Thirteenth Infantry, was wounded July 1 When brought on board the *Relief* a cerebral hernia about the size of a hen's egg was found over the sagittal suture, an inch in front of the occipital protuberance The wound was suppurating, and digital exploration revealed a small circular opening directly in front of the occipital protuberance This opening was evidently the wound of entrance, and by operation, had been connected with the wound of exit by a channel an inch in length and half as wide The hernia occcupied the wound of exit A number of loose fragments of bone have been removed at different times There is marked hemiplegia on the left side, the forearm is strongly flexed and in close contact with the chest Sensation is not diminished, speech clear, but ideas confused, pupils react to light, incontinence of urine, extensive decubitus over sacrum, temperature 100 5 degrees F, pulse and respiration normal

Case 4 —B C Parker, Company C, Fourth Infantry was wounded July 1 The bullet entered the left temporal region, comminuting the bone in that region extensively, and escaped over the left frontal eminence (Fig 11) The cranial defect was increased by the removal of a number of loose fragments There had been quite a profuse sero purulent discharge from the wound The only focal symptom consists in a pricking sensation in the right foot or chest when the wound is being dressed His mind is clear most of the time, occasionally slight confusion and wandering The absence of cerebral hernia in this case is the surest indication that the infection is local

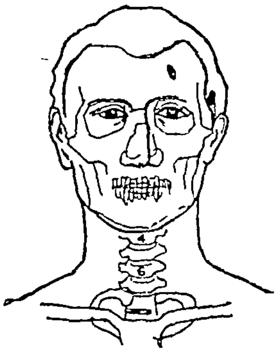


Fig 11

GUNSHOT WOUNDS OF THE NECK

Case 5 —Lieut Albert Scott, Company C, Thirteenth Infantry, on July 1, while standing with his company at the foot of a hill, during the advance on Santiago, received a wound in the neck The bullet entered the neck on the right side just below the inferior maxillary bone, one inch in front of the angle of the jaw The wound of entrance is a clean cut hole about the size of a lead pencil The course of the bullet was backward and slightly downward, emerging at the back of the neck on a level with and to the left of the fifth cervical vertebra (Fig 12)

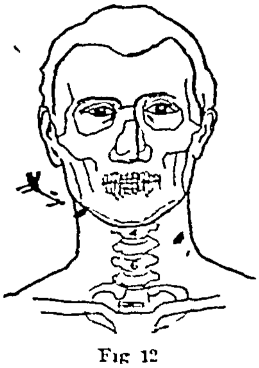


Fig 12

At the moment the injury was inflicted he felt no pain in the wound, but he experienced a sensation as if he had been grasped by the wrists and thrown violently to the ground The wound of exit is of the same size and appearance as the wound of entrance Very slight hemorrhage A few minutes after receiving the injury he was carried from the firing line by members of his company, and was soon transported to the First Division Hospital, where he remained for ten days, after which he was removed in an ambulance to the hospital at Siboney, a distance of seven miles over a very rough road, and a day later was transferred to the *Relief*

He first became aware of the existence of the wound on the way from the field to the hospital At the time he came on board the hospital ship he was voiceless, and made constant efforts to clear his bronchial tubes of mucus Complete paralysis of right arm and leg, and partial loss of power in left arm and leg Respiration normal, but an almost constant spasmodic cough, no control over sphincters, involuntary passages from both bladder and bowels, great debility and profuse sweating, complains of pain all over the body Morphia and atropin given to subdue pain A radiograph taken by Dr Gray shows an injury of one of the cervical vertebræ, probably the fifth Injury seems to be to the left of the body of the bone Has received no treatment other than complete rest and a nightly anodyne as noted above, which secures a good night's sleep, and markedly diminishes the sweating Has regained control of the sphincters, and is able to use bed pan and urinal

July 19 —During the past six days there has been a decided improvement in the general condition of the patient He is brighter in appearance, he can articulate more distinctly, and there is a decided return of power in the right leg The right hand is still absolutely powerless, but the grip of the left hand is decidedly stronger Appetite and circulation good

July 21 —Improvement in general condition still continues The external wounds healed by primary intention, and the scars can only be seen on making a very careful inspection Trional and sulphonal have been substituted for the morphia

Case 6 —Oscar C Buck, Company F, Second Infantry, was shot by a sharpshooter hiding in a tree, July 11 The bullet passed through the neck from side to side The first and only evidence the patient had that he was injured was bleeding from the throat, the hemorrhage at first being quite profuse Stiffness of the neck and pain on movement have been the only symptoms complained of since The bullet entered over the sterno cleido mastoid muscle on the left side, about two and one half inches from the mastoid process The wound of entrance was circular and very small, the wound of exit on the same level but about half an inch nearer the spine (Fig 13)

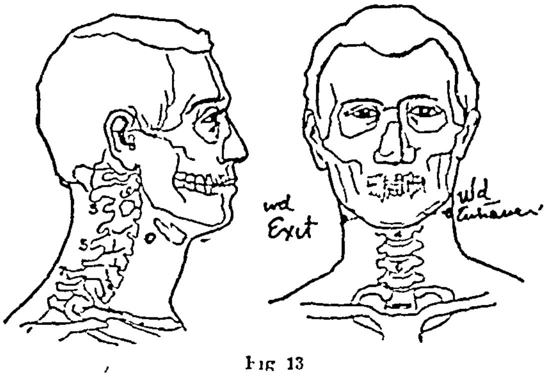


Fig 13

Three days later a small superficial abscess formed in the wound of exit, which was evacuated by dilating the wound Both wounds were perfectly healed July 20 Judging from the course of the bullet it is difficult to understand how the principal nerves and large vessels of the neck escaped injury This is one of those cases that require careful watching, as a traumatic aneurysm may develop later in the throat if the bullet injured the external tunics of either of the carotid arteries

Case 7—Charles F Flickinger, Company C, Fourth Infantry, was wounded July 1, while lying down The bullet entered the left posterior cervical triangle on a level with the spinous process of the fifth cervical vertebra, midway between the spine and the posterior border of the sterno cleido mastoid muscle, and emerged opposite the spinous process of the seventh dorsal vertebra, and equidistant from that point and the posterior border of the scapula (Fig 14a) The patient complains of severe pain in shoulders on attempting to move, but is free from any symptoms that would indicate any injury to the spinal cord He was within 100 yards of the enemy when he was wounded

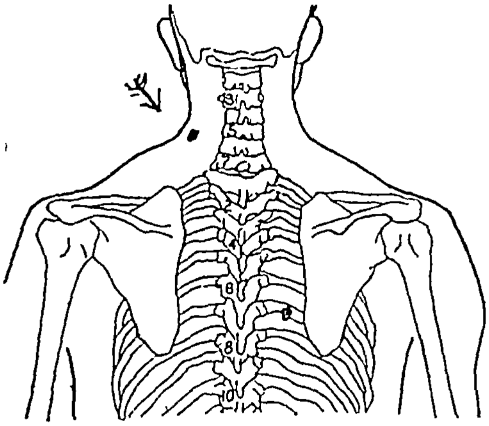


Fig 14a

GUNSHOT WOUNDS OF THE SPINE

All cases of gunshot wounds of the spine in which the cord was seriously damaged have died, or will die in the near future The immediate cause of death in such cases is either a septic leptomeningitis or sepsis and exhaustion from decubitus Death from the first named cause takes place early as the result of infection of the wound and extension of the inflammation at the seat of the visceral injury along the meninges and surface of the spinal cord The first case of this kind I saw was at El Caney a few days after the battle of Santiago The patient was a Spanish prisoner I found him lying on the bare stone floor of the village church The bullet had entered over the center of the spine at the junction of the dorsal with the lumbar vertebræ, its course apparently being directly forward Complete paraplegia below the seat of injury The bladder was distended, nearly reaching the level of the umbilicus, incontinence of urine The neck, trunk above the wound, and upper extremities rigid, fever, pulse rapid and small, countenance extremely pale The wound was protected by a small dirty dressing, and was suppurating I doubt not that the patient died in less than twenty four hours after I saw him Wounds of the spine without injury to cord were frequently attended by temporary paralysis varying greatly in degree and duration

Case 8—George Kelly, Company C, Seventeenth Infantry, was shot July 1, while lying in a prone position The bullet, which was fired from a blockhouse on the summit of a hill, at a distance of about 600 yards, entered the body at a point a little below and at the middle of the right ilium, and emerged from the opposite side about three inches below the crest of the left ilium (Fig 14b) The patient asserts that he suffered intense pain immediately after he was shot, and that he is now free from pain except when he attempts to walk The pain thus caused he refers to the sacro coccygeal articulation The wounds are healed, and the absence of paralysis is the best evidence that the contents of the spinal canal escaped injury, although the bullet must have passed transversely through the first sacral vertebra

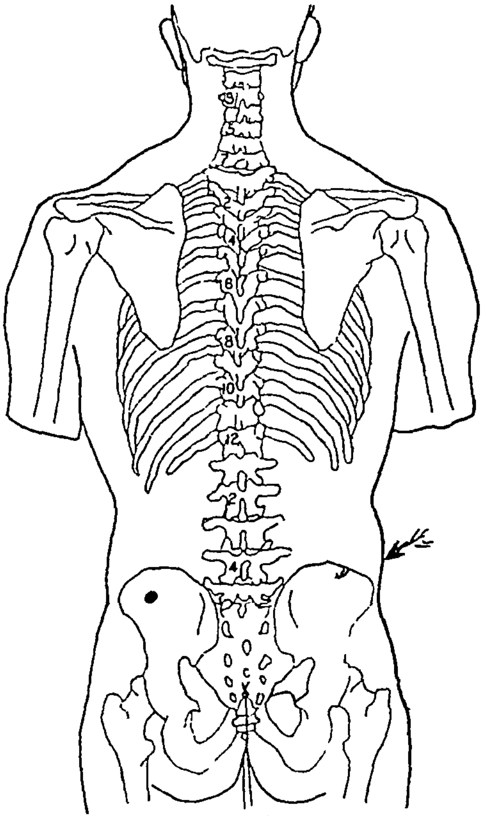


Fig 14b

Case 9—John Robinson, Company C, Twenty fourth Infantry The bullet entered the supraspinous fossa of left scapula and escaped from the right lumbar region, having perforated in its long course the lung, spinal cord, diaphragm and liver

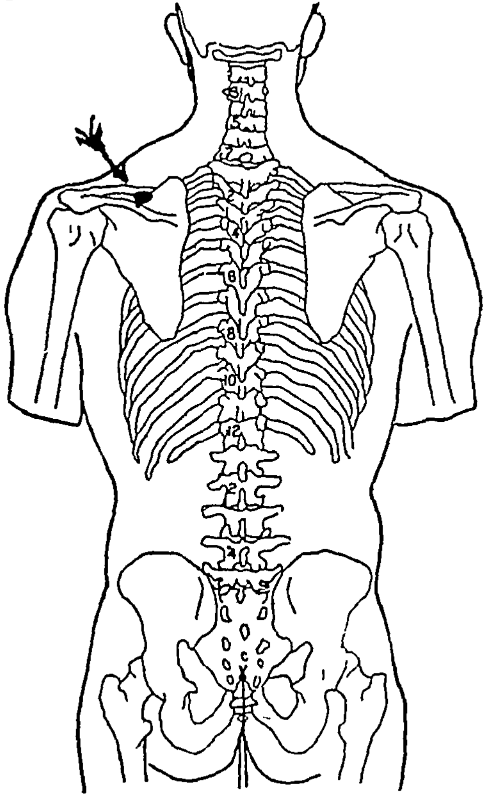


Fig 15

(Fig 15) Wounds healed in ten days Expectoration bloody, complete paraplegia Beginning extensive decubitus over sacrum and spinous processes

Case 10 —Otto Derr, Company A, Twenty first Infantry, was wounded July 2 Bullet passed through the chest from side to side from the post axillary line on the right side to a corresponding point on the opposite side, on a level with the seventh intercostal space Complete paralysis of motion and sensation below the seat of spinal injury The wounds healed, but life was threatened at the time from a commencing septic decubitus

Case 11 —Lewis W Carlisle, Company K, Seventy first New York Volunteers, was hit by a shrapnel in the back, on a level with the third lumbar vertebra, shattering the spinous and left lateral processes of the same The missile was removed as soon as the patient reached the Division Hospital As profuse suppuration set in and continued, the patient was anesthetized July 18, and a number of fragments of bone removed A large abscess cavity in the right lumbar region communicated with the wound The cavity was drained by making a counter opening in line with Simon's incision Impaired sensation in the right leg was the most important local symptom in this case

Case 12 —Charles J Reardon, Company C, Sixteenth Infantry, was wounded by a fragment of shrapnel which struck him as he lay on his back with his shoulders raised ready to fire The wound was directly over the spine, on a level with the fourth dorsal vertebra, the missile evidently opening the spinal canal and injuring its contents The foreign body remains imbedded in the tissues, its location so far has not been determined Paraplegia is complete below the level of the umbilicus On July 18 the patient was still alive, but an extensive moist decubitus became the direct cause of death in the course of a few days

GUNSHOT WOUNDS OF THE CHEST

It is well known that during the Civil War men had a better chance for life when the bullet passed through the chest than when the chest was opened and the ball removed The same remains true now, although not to the same extent, as the small caliber bullet is less likely to carry with it into the chest clothing or other infective material The number of cases of chest wounds that lived long enough to reach the hospital on the coast is still more astonishing, and what is surprising is the fact that unless the hemorrhage was severe the symptoms were mild some of the patients being confined to bed only for a few days All of these cases were treated on the expectant plan i e, by dressing the external wound or wounds in the usual manner In no instance was the pleural cavity opened for the purpose of arresting the hemorrhage

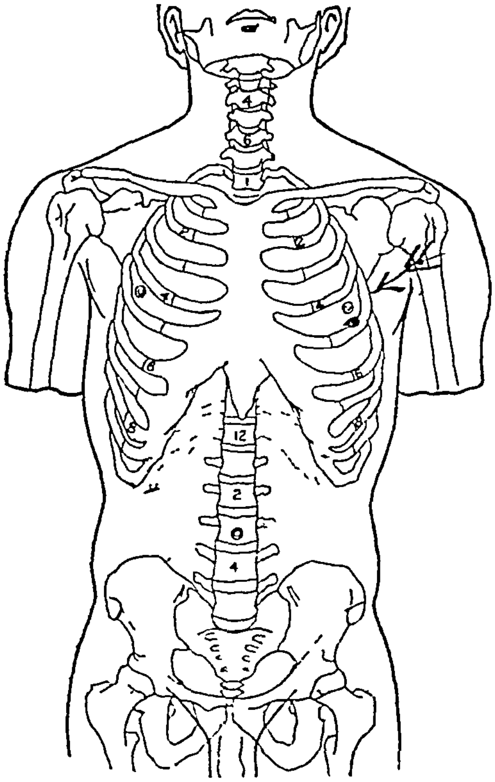
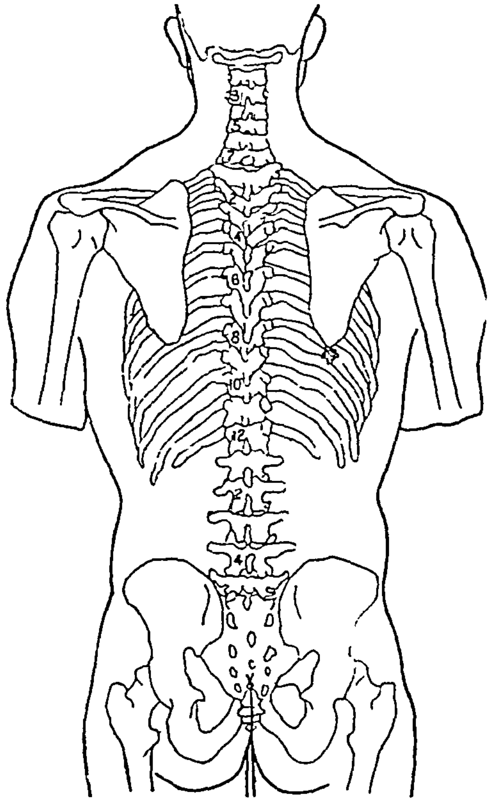


Fig 16



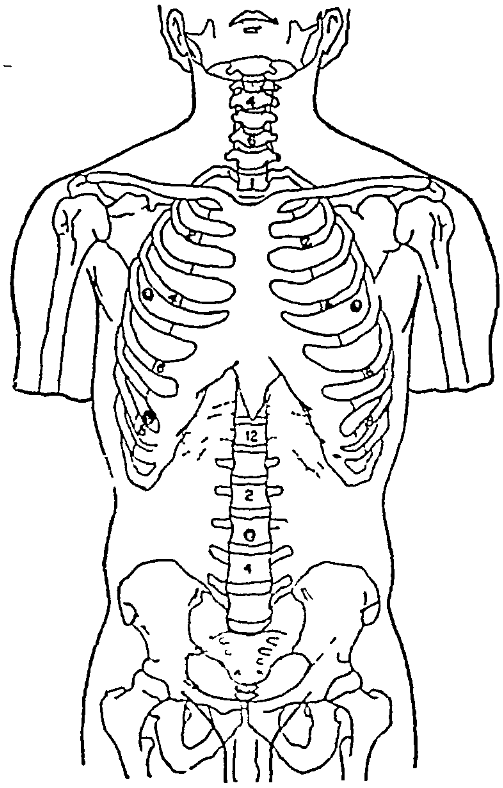
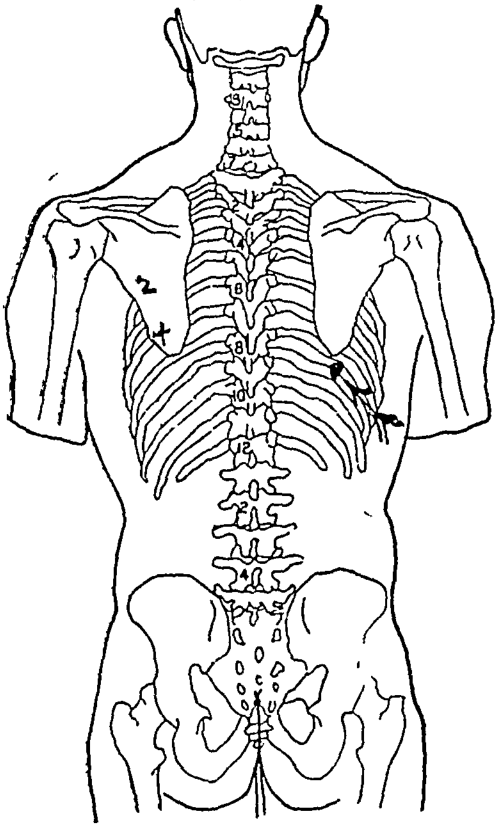


Fig 17

Case 13 —Wm A Cooper, Company A, Tenth Cavalry, was wounded July 1 The bullet entered an inch below the left nipple, and escaped from the body an inch below the costal arch in the mammary line (Fig 16) It is questionable whether the bullet opened either the pleural or peritoneal cavity, as the injury was not followed by any symptoms referable to visceral wounds of the chest or abdomen, although the course of the bullet was such as to give rise to the suspicion that either or both of these cavities might have been invaded



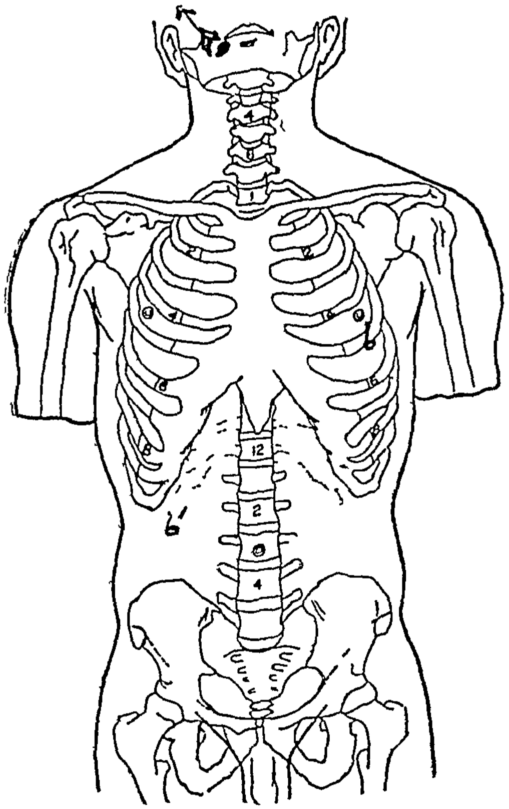


Fig 18

Case 14 —Edward O'Flaherty, Company C, Sixteenth Infantry, was wounded July 2 by a 45 caliber ball from a bursting shrapnel The projectile entered below the angle of the right scapula, passed through the lung, diaphragm and liver, lodging beneath the skin in front, between the seventh and eighth ribs (Fig 17) Bloody expectoration for some time and slight rise in temperature

July 12 —Temperature normal

July 21 —Patient suffers but little inconvenience from his wound No peritoneal or pleural effusion General condition promises an early and complete recovery

Case 15 —John B Semca, Company G, Twenty second Infantry, was wounded July 1, by a bullet which entered his back just below the angle of the left scapula, passed upward through the lung, neck and jaw and emerged through the alveolar process of the right bicuspid tooth, cutting the tongue slightly (Fig 18) All wounds healed in a short time by primary intention Hemoptysis profuse immediately after he was shot, and slight for the following few days Left arm at first nearly powerless, with desquamation of skin of the hand Function of the arm is returning gradually In three weeks the patient was able to sit up for a short time each day Physical examination of the chest at this time revealed nothing abnormal

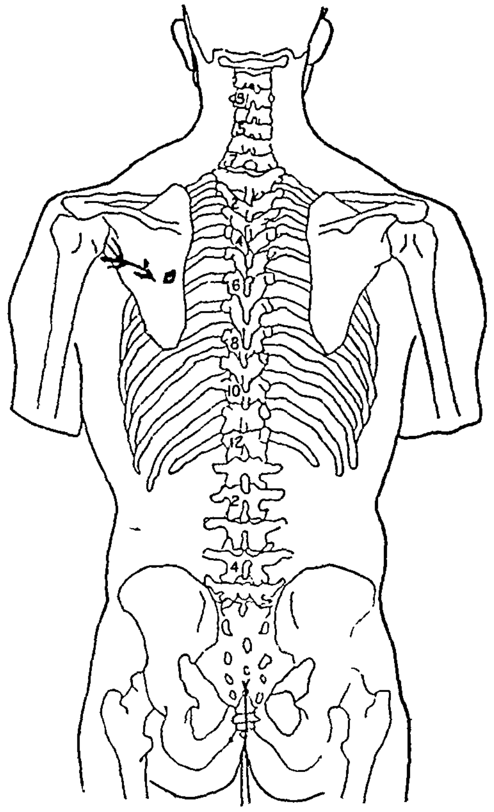


Fig 19

Case 16 —Winslow Clark, Company G, First Volunteer Cavalry, was wounded July 1, by a bullet which entered the chest by first perforating the left scapula through the infraspinous fossa, three inches above the angle and a inch from the spinal border (Fig 19) No wound of exit The probable course of the bullet was downward and forward Some hemoptysis and fever No vomiting of blood The hemothorax was quite extensive and was relieved by tapping, a week after the injury He is now (July 22) convalescing rapidly

Case 17 —Arthur Fairbrother, Company C, Third Cavalry, sustained a perforating gunshot wound of the chest July 1 The bullet entered the chest just below the middle of the right clavicle (Fig 20) No wound of exit Hemoptysis rather profuse, followed by hemothorax Has had fever, off and on, probably malarial Patient was admitted to the *Relief* July 15 Wound not completely closed On coughing, dark fluid blood escapes Nearly the entire pleural cavity filled with blood Two days later three pints of dark fluid blood were removed by tapping and siphonage Sputum at this time still bloody

July 22 —Patient much improved No signs of empyema Hemothorax diminished, but may require a second tapping

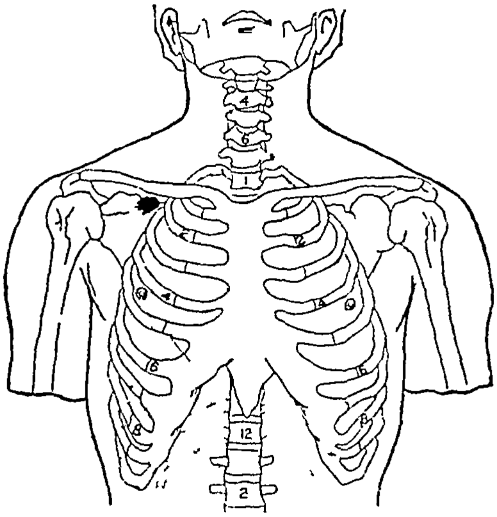


Fig 20

(*To be continued*)

SOCIETY PROCEEDINGS

Chicago Ophthalmological and Otological Society

Regular Meeting held in the Stewart Building, Oct 11, 1898

Dr Coleman occupied the chair He exhibited a patient on whom he had performed Mule's operation some two weeks before, *and who had been wearing the artificial eye for two days* The excursion of the eye is 25 degrees up and down, and 20 degrees out The operation was followed by very little reaction, which he ascribed to the cauterizing of the inner wall of the sclera with 95 per cent carbolic acid, and the free use of hot water

Dr Hotz had examined many cases of Mule's operation, and found that practically the only advantage was that the sulcus in the upper lid under the brow was less deep than in the ordinary enucleation, that the movements of the artificial eye over the Mule's globe were not any greater than in ordinary enucleations

Dr Casey A Wood had done Mule's operation twice In one case the glass ball was promptly extruded, and the other case was lost sight of, so that the result was not known He concludes that inasmuch as the thing that seems to be desired, i e , the prominence of the prosthesis, is the principal source of subsequent danger from pressure, there is very little in the procedure to recommend over a proper enucleation or evisceration He referred to the aluminum frames exhibited by Bryant at the meeting of the American Medical Association in Denver

CONGENITAL DISTICHIASIS

Dr Casey A Wood presented two cases, father and daughter Both patients exhibited absolutely normal lids apart from the supernumerary cilia In both cases the second row is of fine white hairs, on the inner margins of both lids, few of them impinging on the cornea The latter is free from opacity and the conjunctivæ are practically normal Occasionally some lashes touch the corneal surface and have to be extracted There is a plain history of both patients having exhibited the condition from early infancy

Dr Hotz had seen a case in which there was a row of eye lashes coming out directly from the posterior lip of the margin, faint, fine looking hairs protruding from the lid about one eighth of an inch These were easily extracted, and were found to be quite long and seemed to come from the Meibomian ducts After being pulled a few times they ceased growing He suggested that electrolysis be tried in Dr Wood's cases

Dr Wood stated that he had intended to try the use of nitric acid inserted into the base of the lash by means of a fine toothpick He had found it less painful and more thorough than electrolysis

UNUSUAL INTOLERANCE OF MYDRIATICS

Dr Hotz had seen a patient, 60 years old, in August suffering from an attack of iritis He had a previous attack some five years before, and had used atropin at that time He had suffered more severely from the effects of atropin than from the iritis The symptoms during this attack were characteristic, and in spite of the previous experience Dr Hotz dropped scopolamin in his eye several times within an hour The pupil dilated slowly and irregularly, and the redness of the eyeball was less, but the lids were edematous and swollen The pupil was not well dilated, and duboisin was prescribed instead of scopolamin This had the desired effect upon the pupil, but the lids were much swollen , the conjunctiva discharged a good deal of mucus , the skin of the cheek was much puffed, and at places serum exuded Within twenty four hours the whole right side of the face was intensely swollen , the skin furrows were deep and eroded, and crusts of dried secretion were found everywhere The symptoms of iritis subsided very rapidly and the duboisin was stopped Within twenty four hours the swelling of the face began to subside and disappeared within four days There were no constitutional symptoms

Dr Colburn—I have had almost the same experience in the case of a cataract extraction About two years ago I operated on the left eye, and atropin produced all the symptoms that the Doctor has described Last winter I operated on the right eye, and I used duboisin instead of the atropin, and again I had a fearful eye The lids were distended, the nostrils closed and both eyes and the whole of the face and neck were involved, and it looked very angry I could give no other explanation than atropin poisoning He again had all the symptoms that the Doctor speaks of , it was the most fearful case of apparent erysipelas that I ever saw The recovery from the operation was not interfered with the visual result was good

Dr Wood had found that there was a dermal idiosyncrasy in many patients for atropin, and that a distinct dermatitis would arise when the drug was rubbed on the skin of the arm or leg, etc

Dr Pinckard had had one case where a single drop of atropin, duboisin, or hyocin brought on very marked constitutional symptoms, but not any skin symptoms The patient was a woman about 30 years of age

SARCOMA OF THE LID

Dr Pinckard—The patient, a woman 30 years of age, I first saw in May of this year For the past two months she had noticed a gradually increasing swelling on the lower lid just to the outer side of the punctum It was then about the size of a large pea, the skin being a trifle reddened, and the conjunctiva a dark red color I thought that it was a chalazion and advised its removal On making an incision into the tumor, however, I found it to be solid, and cut out a little piece which on examination proved to be sarcoma The question of the differential diagnosis is certainly very difficult The only peculiarity that I noticed, and which I probably should not have noticed but for the subsequent developments, was that the border of the lid was very much raised at the site of the tumor, thus disturbing the line of the lower lid I have not found this to be the case with chalazion, the swelling generally extending only outward or inward, and not interfering with the line of the lid border The patient was sent to the hospital, and under ether a large V shaped incision, beginning at the inner canthus and to the outer side of the middle of the lid and joining about an inch below the lid, was made, and the whole section removed The caruncle, the lachrymal sac and some of the orbital tissue were also removed The outer half of the lid was joined to the skin of the nose and healed readily by first intention, leaving but a comparatively slight scar Some few weeks later I saw the patient for the last time, and at the site of the scar there was a suspicious looking growth, which I thought was probably the return of the sarcoma I heard from her some two weeks ago, and she states that this had disappeared I do not see how it is possible to make a differential diagnosis between sarcoma and chalazion before a section is made into the tumor Certainly in this case, with the possible exception of the lid edge, there was nothing characteristic The patient was healthy in all other respects, and no doubt this was a primary sarcoma of the lid

Dr Wescott removed from a child early in the summer, a tumor which extended the entire length of the tarsus and covered it very completely Some three years before Dr Holmes had seen the case and thought it was a chalazion and was surprised when he cut through the skin to find a solid tumor Dr Holmes curetted it but it returned very slowly, and had been growing up to the time the child was brought to Dr Wescott The tumor was dissected out, and the examination showed it to be a pure angioma There was no return in five months

DRESSINGS OF CATARACT CASES

Dr Coleman—In the last three cases I did not apply a compress bandage, simply put a gauze shade suspended by plaster on the forehead, and covered that with a papier mache shield, and I have never had less reaction than in those cases We all very well know that in aged people, if we tie up the eye ,for forty eight hours, we may produce a conjunctivitis

IRIDECTOMY

Dr Coleman—No one has advocated preliminary iridectomy Landolt has written the best article I have seen of late years on cataract extraction, and he says that beyond all controversy preliminary iridectomy offers the safest prospect for recovery All things considered, for me preliminary iridectomy affords the greatest amount of success In reply to a question as to the use of eserin, Dr Coleman said I question the efficacy of it in the simple operation I would not use eserin to prevent prolapse, but atropin The latter, by opening the gateway, takes the pressure of the aqueous off the posterior surface of the iris and thus prevents prolapse

Dr Hotz—I have never divided the operation to save the patient annoyance and nervous excitement of two operations, when I can get along with one I do not know whether there would be anything gained by, or any greater safety in the preliminary operation

Dr Bulson of Fort Wayne—In discussing a paper that was presented at the recent meeting of the British Medical Association, a noted ophthalmologist cited a case in which the wound, following removal of cataract, remained open for seven or eight days This was supposed to be due to the fact that the incision had been made wholly in corneal tissue, which in the aged repairs slowly I have recently had under my care a similar case, in which, owing to the unruliness of the patient, the incision was made wholly in the cornea This wound remained with escape of aqueous, for a period of five days, and notwithstanding that a small iridectomy was performed no prolapse occurred Under pressure bandage and the stimulating effect of hot compresses the wound closed very nicely As to the use of eserin, I do not presume to speak from a great amount of experience, as I use the drug in exceptional cases only I believe it to be irritating in a large percentage of cases and therefore prefer to limit its use as much as possible I have seen weak solutions produce violent irritation, and for that reason have learned to look upon all applications of eserin with considerable suspicion

Dr Westcott—I am still doing the combination and hesitate to change I have also seen decided irritation from a half grain solution of eserin, and my ordinary prescription is an eighth or rter of an ounce I believe in using atropin after extrac n, but I do not begin it early, and frequently have omitted until the fourth day

Dr Pinckard—When I was the house officer in the infirmary in Boston, Dr Chandler devised an operation and operated on fifty cases with a device which was quite ingenious He argued that the prolapse of the iris was due to the gushing forth of the aqueous, carrying the iris with it So after doing his extraction, he cut a small piece the size of a pin-head, out of the peripheral edge of the iris The idea is certainly ingenious and, so far as I know, was original with him By this means he left the pupil round, and that part of the iris with the hole in it was always covered by the upper lid, and through this hole fluids could pass to the anterior chamber and thus diminish the danger of prolapse

Dr Robertson—After operations for cataract it is desirable to have as small a pupil as possible, that is, as small a clear pupil as possible Whether you do a simple or a modified operation, there is nearly always some secondary cataract developed, and it is desirable to have a pinhole pupil through the secondary one, for the reason that you get a greater range of accommodation The larger your pupil the less accommodating power you have left in the eye There is one case I recall where the man had enough accommodation to see at a distance and read with the same lens, this, not on account of any true accommodation, but by reason of the pinhole pupil, all rays of light entering the eye being practically parallel These patients can by squinting the eye, make pressure on the globe by the lids so that the eyeball is elongated by mechanic force This would create an artificial myopia, and in such a way give the patient an artificial accommodation This artificial myopia can exist to an unknown amount and we are not unwilling to concede that we might develop 3 00 D or 5 00 D , which would be changing the diameter of the eye only 1 75 mm I do not think it makes much difference when you fit the patient after extraction, as some will wear the same correction always, while others require changing often

Dr Westcott—I had one traumatic case of cataract in a boy where I did a very small iridectomy and got vision of 20/40 with the proper lens With the same lens the boy could read the smallest type I ascribe this power to the very small pupil

DISCUSSION ON CAPSULOTOMY

Dr Coleman—In doing capsulotomy with the ordinary capsule I should not be tempted to use a forceps, but in a tough capsule I am very decidedly in favor of using the forceps, and in the few instances in which I have had occasion to use it, the result has been most satisfactory I do not see why some of the text books should recommend removing the capsule subsequently to removing the lens This seems to me very dangerous

Dr Hotz—My experience is somewhat unique but in all my extractions I never came across any capsule that I could not cut with a cystitome If I should encounter one that the cystitome should fail to cut, I should rather remove the cataract in the capsule *a la Pagenstecher*

DISCUSSION ON SECONDARY OPERATION

Dr Hotz—I dislike to do secondary operations, and if a patient has anywhere near satisfactory vision I do not perform them for the sake of getting better vision I can not understand how anybody can advocate them so persistently as if they were the simplest and most harmless operations No matter what instrument may be used, the mechanic action certainly is not so much cutting as tearing We have very little chance to cut a capsule, and I have found that the membrane will yield before the knife until it tears If the membrane is very thin, no serious reaction follows, but if at all thick the reaction is severe In cases of dense membrane, I am in the habit of using two fine sharp hooks introduced through the cornea, and tearing the capsule in the center As the traction of one hook resists the other, there is no dragging on the ciliary region Even in cases of thin membrane, I have seen violent reaction follow secondary operation and have been able to demonstrate the presence of a small thread of vitreous in the hole in the capsule

Dr Coleman—I most heartily agree with what Dr Hotz has said, and I can not understand why some operators make so light of a secondary operation While the knife needle in my hands has been followed by unfortunate results, I have quite frequently operated on tough membranes with the de Wecker's scissors, and always with gratifying success, a good pupil having been secured and with very little reaction

Dr Pinckard—I have often seen the operation referred to by Dr Hotz, done in Boston, particularly by Dr Jeffries Usually but one hook was used, the other point of traction being a Bowman needle The needle was passed through the cornea and into the center of the capsule, and then a hook introduced from the opposite side and a tear made with the needle as a point of resistance

Dr Westcott I have accomplished the same thing by introducing two needles on opposite sides of the cornea into the center of the capsule and thus tearing the capsule

DISCUSSION OF REFRACTION OF CATARACT CASES

Dr Westcott—We have to be guided in these matters very largely by the means of our patients A good many, especially those from the country, are very anxious, for more than one reason, to return as soon as possible, and they all want some sort of a glass when they go home I have been in the habit of measuring the refraction carefully between the end of the second week and the beginning of the fourth week, and have given the patient the spheric lens which gave him the best vision I have asked some of these patients to come back in three or four months, and I know that in more than one instance I have been able to give a permanent glass at the end of sixty days, that was still the best glass I could find in a year In other cases, one of which, I have in mind now, I found a very decided change at the end of a year I extracted a cataract up in Minnesota last September I left the patient two or three weeks after the extraction, and he accepted then a +9 sphere with a +4 cylinder I gave him a +9 to wear and he was perfectly satisfied except that he could not read This year I found the patient had even less vision, 20/100, with the best correction which I could give him, which was a +12 sphere and a +4 cylinder, at which he was very much surprised In the dark room I found that the posterior capsule was thrown into fine vertical folds The anterior capsule was out of the way entirely I advised needling, and performed the operation on the following day After a week's time, during which there was absolutely no reaction, the patient accepted the same correction, but got 20/30 vision, and was able to read his newspaper If we could see all our cataract patients once a month for a year, we could decide this ques tion, but otherwise I do not see how we can I ask my patients to stay in town a month, when they come from outside for cataract extraction Then I ask them to come back in three months, and then again in six months, if the glasses are not perfectly satisfactory for all purposes, and in that way I have given some patients better satisfaction, I am sure, than I could if I set any definite time for giving final correction

Chicago Medical Society

Regular Meeting Oct 26, 1898

Dr J C Hoag, first vice president, occupied the chair

Dr Harold N Moyer presented a paper to the meeting, entitled

DUMBNESS OR CONGENITAL APHASIA OF A FAMILY TYPE WITHOUT DEAFNESS OR OBVIOUS MENTAL DEFECT

He described the case of a boy, 9 years of age, who was otherwise bright and intelligent, who understood all that was said to him, but who had spoken only the one word "mamma" until his eighth year It could not be learned at what time of life he acquired this word Inquiry into the family history showed that the father was totally aphasic until 6 years of age, and that two brothers and one sister were similarly affected, none of the latter speaking until 4 years of age A paternal uncle and cousin were affected with lalling all their lives The two brothers of the patient grew up and occupied positions in life above that of the parents The father and two grown sons had an excellent command of language, free from all defects of articulation

He referred to several classic examples of sudden speech in those who had been previously dumb the son of Crœsus and the Samian athlete

The extreme rarity of the affection was shown, an examination of 4485 mutes showing this condition in only seven, and many of these were more defective as to general mentality than those which he described The explanation of Bastian was referred to, in which he claims that language is to a certain extent instinctive, and in these cases there is some barrier to the emission of speech, under the influence of a strong emotion that is swept aside and speech follows One of the cases coming under his observation did not speak until the fourth year Then speech suddenly began, at first imperfect, but in three months he spoke as well as the average child of his age

Dr Charles H Miller presented a paper on

THE PROTEOLYTIC VALUE OF MALT

After briefly reviewing standard authorities and giving the results of experimentation, he draws the following deductions

1 Properly prepared, light-colored, semiliquid extracts of malt, possessing strong amylolytic power, have also positive proteolytic value, though decidedly less marked than the better known ferments, pepsin and trypsin

2 The reaction of the media bears an important relation to the results obtained This influence is believed to be as follows in sequence of greater activity, 2 per cent lactic acid, 5 per cent. sodium carbonate, 6 per cent sodium chlorid (neutral), and 5 per cent hydrochloric acid

3 Judging from these experiments, and in the proportions employed, the proteolytic power of malt extracts is about 5 per cent that of pepsin or pancreation

4 The dry diastase preparations were not found to possess proteolytic power The best results were obtained by a freshly prepared extract of malt just before use

Good malt extract is a valuable food, concentrated and immediately assimilable It is capable of immediately convert ing enormous quantities of non diffusible carbohydrate food starches into soluble dextrin or maltose forms, ready for the use of the body It is in the amounts commonly administered, capable of largely converting the proteids of an ordinary meal into diffusible peptones It is distinctively a pleasant medicine, and one readily combined with practically all other remedies, often completely obscuring their disagreeable properties Malt extract is a first class remedy, and the simplest rules of combination render it doubly satisfactory to use Regarding administration it should be given just before or with the meal, and can always be advantageously combined with lactic acid to pleasant tartness, other medicines not interfering

Dr Daniel R Brower offered the following preamble and resolutions, which were adopted

Whereas, the members of the Chicago Medical Society regard with deep concern the demoralizing and unprofessional conduct of Prof Emil Behring in lending his aid to the Dye Works (Farbwerke) of Hochst on the Main, Germany to the securing of a patent on diphtheria antitoxin and

Whereas, the behavior of Professor Behring is derogatory to the professional character, in conflict with the ancient traditions of medicine, and in sorry contrast with the example of Simpson, Pasteur, Lister, Helmhotz and a host of other illustrious physicians, and

Whereas, the history of recent biologic science clearly exhibits the important contributions made to the development and establishment of serum therapy by a number of Behring s predecessors and contemporaries, whose credit he seeks to appropriate, and

Whereas, antitoxin of the highest grade, possessing a potency and efficacy far greater than that of the Behring product, has for years been supplied in the American market, at reasonable prices, therefore be it

Resolved, by the Chicago Medical Society, that Professor Behring's conduct is unworthy of his scientific reputation. that his claims to priority in the discovery of antitoxin serum are unfounded, and that the granting of his patent, after five successive rejections by the examiner, was unjust, erroneous and contrary to public policy,

Resolved that it is the duty of every member of the Chicago Medical Society to renounce the use of the Behring serum, and that the American manufacturers who purpose contesting the patent in the courts are entitled to the moral and substantial support of every American practitioner,

Resolved, that the secretary be requested to send copies of these resolutions to the leading medical journals of the United States, thus giving them a wide publicity

San Francisco Academy of Medicine

October Meeting

Dr Caglieri read a carefully prepared paper on a case of

ACTINOMYCOSIS OF THE LUNG,

which was of considerable interest as it presented some rather novel features and as these cases seem to be somewhat rare The patient was a woman 30 years of age married and having one child The history, as obtained by the Doctor when he first saw the case, some little time after the onset of the disease was as follows The woman was of very slender build and extremely nervous, there was no family history of any nervous, tubercular or specific trouble She lived in a comfortable home, well provided with all the necessities and many of the luxuries of life The illness had commenced with a sudden consolidation of the middle and lower lobes of the right lung, accompanied with a temperature of 105 degrees, after ten days this seemed to slowly resolve, and the temperature dropped to 101 degrees, with rises in the mornings No further change had occurred up to the time when the case was first seen by Dr Caglieri, about a month from the first onset When thus seen she was very much wasted, respirations were rapid and shallow, the left chest having less motion than the right, the breasts were soft, smooth and flabby, the lower half of the right chest was the site of a very perceptible fremitus On the right side was found an area of dulness extending as high as the sixth rib in the median line and as high as the fourth rib on the side Other portions of the right and the whole of the left lung were hyperresonant On auscultation a large variety of rales could be detected—puerile, bronchial, and moist—and vocal resonance was reduced The heart sounds were weak, but otherwise practically normal The abdomen presented no abnormality A diagnosis was made of a sacculated right pleural effusion, and it was decided to at once examine with the exploring needle The needle located on somewhat deep puncture, thick, creamy pus On the following day, when it was attempted to aspirate and wash out the right pleural cavity, it was found that no pus could be drawn into the bottle, no matter where the needle was introduced and no matter how deep the puncture At this time she was suffering from an almost continuous cough, with more or less bloody expectoration and night sweats The sputum was carefully examined, but no tubercle bacilli could be found A few days later the exploring needle was again used, directed in various points and rather deep again a small amount of thick pus was found, and it was decided that there were a number of small sacs of pus at various points held between the lung and the chest wall Shortly after the last exploratory operation an area of inflammatory congestion appeared on the right breast, at about the region of the fifth to the seventh ribs This was edematous, congested and painful on pressure, and it was thought that there might be some periostitis resulting from infection from the exploring needle An incision along the rib showed the presence of some periostitis, the lesion was then scraped and packed The inflammatory process seemed to be but little checked, however, and very soon other foci appeared ulcera tion set in and many small yellow granulations made their appearance at the site of the inflammatory trouble It was now suspected to be a case of actinomycosis, and slides were made from the pus of the ulcerating areas, and also of the sputum Nothing was evident in the sputum, but in the pus were found numbers of rod like bodies, easily identified as the actinomycosis The patient was then placed on iodin and Fowler's solution, and intravenous injections of corrosive sublimate were about to be tried, when the patient changed her doctor She was not seen again for some weeks, when she once more sent for Dr Caglieri, who found her condition much worse, she had been operated upon a number of times for "lupus," but without any benefit There were ten or twelve sinuses when she was seen again, she was very weak, and the expectoration of bloody sputum was almost continuous She rapidly sank and died two weeks later No postmortem could be held The Doctor then took up the clinical features of the case, and suggested that there were four conditions to be considered

1 Was the pneumonia the primary condition, on which through exhaustion, the actinomycosis had become engrafted?

2 Was the actinomycosis a primary condition, which had simply been aggravated by the pneumonia?

3 Had the actinomycosis produced a consolidation, which resembled a true pneumonia?

He then cited a case reported by Dr Hodenpyle in the *Medical Record* during 1890, in which the clinical symptoms were practically identical with those in his own case, and in which a postmortem had been made, in his opinion the postmortem changes in the case he had just reported would have been found to have been the same as in the case reported by Dr Hodenpyle

Dr **Kengler** mentioned a case he had recently seen in which there had been very much the same history, except that the symptoms all pointed to an incurable involvement of the liver, but on postmortem examination he had found a very large abscess of the liver, with also a large amount of pus at different points in the pleura No slides nor cultures had been made, so that it was impossible to say that it was really a case of actinomycosis, but in his opinion this was the diagnosis Shortly before death lung symptoms made their appearance, and there was quite an area of solidification on the right side of the chest

Dr **Tait** objected to the Doctor's making the comparison of the postmortem changes in his case and another case, when he ld not say that the condition in his own case was thus and o He also suggests that there might have been enlargement the glands, or at any rate infection of them, even though they were not very evident, and that infection did often involve the glands in these cases He also thought the pus drawn at first should have been examined, and the possibility of the real trouble suspected He mentioned the value of the examination of all such cases by means of the X rays, as such examination tended to elucidate the diagnosis very materially by showing whether the pus was in the lung, or in a large pleural sac, or in a number of small sacs

Dr **Cagleiri**, in closing the discussion, said that he did not believe it all necessary to examine every case of pleural effusion by means of the X rays, and that he doubted the actual value of such examination, though he had not employed it As to the postmortem condition being assumed to be the same as the case reported by Dr Hodenpyle, he had read reports of four other cases presenting the same clinical features, and they had a remarkable correspondence in the matter of the postmortem condition, he, therefore, thought it not improbable that his case was subject to the same or similar changes, and so mentioned what he thought would probably have been found if such examination had been made He did not agree with Dr Tait in the matter of the enlargement of the glands, for he was quite sure that in the case just reported there was no such enlargement, and he also thought there had been no infection, though of this he could not be sure This case was peculiar, in that it began acutely and so continued, and that at first there was nothing to point in any way to any condition other than a pneumonia, with subsequent formation of pus in the pleural cavity

Mr **Gillihan**, a senior student in the Medical Department of the University of California, presented some beautifully preserved and mounted specimens, and described the formula and method of making the preservative mixture The formula had been suggested to the chief of the University Clinic Laboratory by Dr Philip King Brown It is as follows

GELATIN FORMOL FLUID

Soak the gelatin in distilled water for twenty four hours, pour off the water and then warm the gelatin over a water bath until fluid, then cook, of the gelatin (fluid), 1 part, distilled water, 1 part, glycerin, 2 parts, this should be cooked until the whole is well mixed, stirring all the time with a glass rod It should then be strained through a flannel cloth and allowed to cool somewhat, when enough 40 per cent formalin is added to make a 4 per cent solution Into this solution, while at about 37 degrees C, the specimens should be placed Mr Gillihan said that he had found some trouble with the formula as given, and more trouble with the gelatin as found in the market, owing to bad gelatin a number of specimens had turned milky white a short time after they were put up He had experimented with all the varieties of gelatin which the San Francisco market afforded, and had found that Knox's gelatin was the one which gave the most satisfactory results He said also that it was very difficult to make the proper measurements when the solutions were hot, so he had calculated and experimented until he had arrived at the proper quantities to be taken before assembling The formula as he now uses it, is as follows Gelatin (dry) 50 gm, glycerin, 450 gm, distilled water, 400 gm, formalin (40 per cent) 100 gm The formalin must be very carefully added at the last, or the whole will coagulate He had found that the best method of making permanent specimens was to use a Petrie dish of the requisite size, making the seal between the dish and the cover by means of a mixture of paraffin and resin, equal parts, which could be poured into the space between dish and cover while hot Among the specimens shown was one which had been exposed to sunlight every day for two months, it was of a brain section, and had not faded at all

Dr F **Dudley Tait** exhibited a specimen of a cancerous breast which he had removed by Kocher's operation, and spoke of the relative values of Halstead's and Kocher's operations for amputation of the breast in cancer He was quite of the opinion that Kocher's operation was very much superior to that of Halstead, and for many reasons It made the operation much more simple, cleanly, and less liable to cause inoculation by means of carrying infection to uninfected tissues It was also less bloody, he had operated in one case where only five ligatures had to be tied in the course of the operation This question was discussed by Drs Sherman and Brunn

---

Mississippi Valley Medical Association

Twenty fourth Annual Meeting, held at Nashville, Tenn, Oct 11-16, 1898

Concluded from page 1114

THIRD DAY—AFTERNOON SESSION

Dr **Alex C Wiener** of Chicago read a paper on

SURGICAL TREATMENT OF PARALYSIS IN CHILDREN

A clear distinction should be made in diagnosis as well as treatment between cerebral and spinal paralysis A common symptom in both diseases is paralysis, and yet there is great difference between the two affections In spastic paralysis one group of muscles becomes rigid and overpowers its opponents, rendering them overstretched and useless, but still their innervation is by no means disturbed In spinal paralysis there is a true degeneration of the lower neuron and the dependent muscular groups This being borne in mind, the treatment is to equalize the balance between the spastic and the overstretched muscular group by lengthening the rigid muscles This is done either by tenotomy, resection of tendons or loosening the attachments of the muscles from the bone, as is done in a spastic condition of the adductor muscles of the pelvis The after treatment consists mainly in not allowing the extremity to leave its over corrected position too soon, and in strengthening the functionally weakened opponents by massage, baths and electricity Apparatus in these cases is utterly useless and should be entirely discarded Any other peripheral cause of reflex irritation, as phimosis, occlusion of the prepuce, or of the clitoris, is to be removed In anterior poliomyelitis we have to deal with a true paralysis of certain muscular groups This may be overcome by apparatus which supplants the paralyzed muscles, or by operative procedure This consists of dividing the belly of an active muscle up to the place of its insertion and sewing the corresponding part of the tendon into the cleft of the tendon which belongs to the paralyzed muscle The inactive muscle is supplied with the vigor of the innervated muscle, taking care, as Milliken has pointed out, that the sheath of the tendon is preserved By this artificial change in the arrangement of muscles the function of one muscle is transmitted to another There is taking place an alteration of the reflex activity in the nerve centers of the muscles, hence the importance of the function of the extremity is by no means a mere mechanical act

Dr Joseph Rilus Eastman of Indianapolis read a paper on

THE DIAGNOSIS OF GONORRHEA IN WOMEN

The diagnosis of this affection in women is comparatively easy, even without the microscope With a history of impure coitus, free purulent secretion from the vulva, vagina and urethra, intertrigo burning on micturition and vasical tenesmus, the diagnosis is not far to seek Upon inspection one usually detects a discharge of tenacious pus, or greenish or yellowish streaks upon the linen may alone may be in evidence The symptoms of gonorrhea in women were dwelt upon at great length

The gonococcus grows upon flat epithelium A comprehensive examination of the discharge is not complete until the secretions of the urethra, Skene's lacunæ, the glands of Bartholin, the vagina and cervix, have been searched through, and in chronic cases several preparations should be made from each of these To secure unmixed gonorrheal pus from the cervix uteri, care should be taken that the platinum wire does not come in contact with the vagina It is best first to rinse, and then dry the vagina with cotton to free it from mucus

It will be concluded after many examinations for gonococci, that the urethra is the seat of predilection of gonorrhea in women, and that the vulvitis and vaginitis are secondary, being caused by the bathing of these parts with the discharge from the urethra and cervix The diagnosis of acute gonorrhea may be made by contemplation of the clinical phenomena alone For example, if acute urethritis be present, it is almost certain that the gonococcus is to blame Observation for a few days will establish the diagnosis beyond conjecture, since the symptoms of non specific urethritis will disappear rapidly In chronic gonorrhea too much dependence upon clinical manifestations is hazardous Condylomata are often present, but appear also often independently of gonorrhea Débris laden discharge from the vulvo vaginal glands is usually an expression of old gonorrhea, but other germs, as the staphylococcus aureus and saprophytic forms, may occasion just such discharge Among the more common indications of chronic gonorrhea are the maculaæ gonorrhoicæ of Sanger, red papules about the openings of the vulvo vaginal glands, sclerotic inflammation of these glands, and scars and erosions in the vulva All these conditions may be caused by other germs than gonococci Here, as in acute gonorrhea, the most reliable indication is the urethritis

Dr A M Cartledge of Louisville read a paper on

POSTERIOR DISPLACEMENTS OF THE UTERUS,

in which he dealt with the subject from a clinical standpoint He discussed the causes, symptoms and diagnosis of these displacements Treatment should be divided into measures which correct the cause and methods of support by suturing and shortening the round ligaments Sometimes it is necessary to employ both methods in the same individual in order to make the result durable In the first category are to be included thorough curettage, repair of cervical lacerations, if present, perineorrhaphy and restoration of the pelvic floor, tonics, laxatives, and rest These methods, if carried out successfully, will ultimately relieve the vast majority of posterior displacements They are not so dramatic or sudden in their relief as ventrofixation and Alexander's operation, but are more in accord with rational ideas In order to succeed they require time—six to eight months—for the structures to resume their normal tone They also usually require to be supplemented for some weeks or months following their performance by anterior and posterior tamponnage, or a well fitting pessary to hold the uterus in position until the repaired parts regain their strength It is irrational surgery to use any form of support until existing causes have been as far as possible removed

As between vetrofixation, and Alexander's operation, preference should be given the latter, if no accompanying disease is suspected Where such disease exists, the operation of ventrofixation should be practised, as is given opportunity for inspection and correction of the pelvic disease It is the best operation in all cases of adherent uteri

Dr A H Cordier of Kansas City, Mo, followed with a paper entitled

SOME PHASES OF INTESTINAL OBSTRUCTION

The causes of this condition are many and varied Modern methods of diagnosis in skilled hands have led to the saving of many lives, which, heretofore, would have been lost by delay in resorting to the proper treatment. While the diagnosis of intestinal obstruction can usually be made early, there are some cases in which the pathologic manifestations are so insidious or vague that their detection requires time and much clinical analysis The symptoms of intestinal obstruction were thoroughly outlined He said the falsehoods uttered by pain and the truths untold by opium have been very expensive to human life in the management of intestinal obstruction Surgical treatment for the relief of this condition should be resorted to early It should be thorough and quick No protracted delays or chronic surgery should enter into the management of an acute intestinal strangulation, as these cases stand prolonged anesthesia and slow surgery badly

Dr F F Lawrence of Columbus, Ohio, followed with a contribution entitled "Essentials to to Success in Abdominal Surgery"

Dr Bayard Holmes of Chicago read a paper entitled "The Surgical Treatment of Exophthalmic Goiter" He said the surgical treatment is based on the theory that in this disease the direct morbid factor is an increase in the normal excretion of the thyroid gland He gave a synopsis of the physiology and pathology and an outline of the embryology of the thyroid, after which he reported a case upon which he had operated, which was a very powerful argument in favor of surgery in dealing with this affection

Dr J S Nowlin of Shelbyville, Tenn, contributed an article on "Some Forms of Gangrene and their Treatment." Gangrene means death of a part, and is applied to the soft tissues The blood is always involved in this disease If the blood is performing its functions, there can be no local death The blood channels being destroyed, gangrene necessarily follows Gangrene appears sometimes suddenly after injuries to the spinal cord A normal functional activity in the blood prevents the first step in the process of inflammation Simple endarteritis may be the cause of gangrene, an inflamed artery is then surcharged with blood, stasis results, coagulation takes place, the lumen is destroyed to a certain extent and gangrene results Sepsis is doubtless a most frequent cause of gangrene in the extremities In traumatic gangrene the surgeon should look out for sepsis If there be a simple endarteritis with tissue formation, amputation should be performed at the first evidence of failing vitality

Fourth Day—Morning Session

Dr A H Osness of Dayton contributed a paper on "Diphtheria and its Logical Treatment" He said the pathologic process in diphtheria is caused by the serum albumin at the point of infection becoming moderated from incorporation with the specific virus It is then repudiated by the blood stream and exudes into the neighboring tissues, where it, plus necrotic cells and fibrin, forms the pseudo membrane, that is, a congenial nidus for the Klebs Loeffler bacillus The intoxication of the system depends upon the energy of the lymphatics upon which devolves the removal of the exudate In the treatment the use of antitoxin serum offers the risk of over toxicity from additional toxin, or systemic impairment from invalidism of the centers, while monosulphide of calcium has been given in three quarter grain doses every half hour for a period of thirty six hours to children with the best of results Water should be taken internally quite freely to help elimination of the toxin, local swabbing being resorted to as well, with a mixture such as the physician deems necessary

Dr William K Jaques of Chicago followed with an excellent contribution on "The Early Diagnosis of Diphtheria," which appeared in full in the Journal of October 29, p 1016

Dr H W Whittaker of Columbus read a paper on "Pichi" In Chili, South America, pichi is found growing as a shrub in abundance No doubt the active principle of the drug resides in the balsamic resin, but chemic examinations have so far been unsatisfactory in determining its chemic composition The annoying symptoms of chronic cystitis with enlarged prostate yield to the action of pichi, as was illustrated by the citation of a case Cystitis complicating specific urethral infection, involving the prostatic urethra, is a combination which under favorable circumstances does not readily respond to treatment, and yet under the influence of this drug the conditions become more tolerable This remedy is indicated in all the various forms of diseases of the liver In gall stones, pichi has proven a valuable remedy in assisting the secretion of bile and theoretically aiding the discharge of the stones Uric acid formations rapidly disappear from the urine under the corrective influence of this remedy and the general condition of the patient improves

Dr I Henry Carstens of Detroit reported a case of rupture of the body of the uterus during confinement

Dr A Ravogli of Cincinnati presented "A Few Practical Points in the Treatment of Posterior Urethritis The author recapitulated the principles of the treatment for this disease as 1 irrigations with the Janet method in recent case of [illegible] rhea will in many cases prevent [illegible] thritis tion with the recurrent catheter, with permanganate of potassium, followed by injections of protargol, will cure in a relatively short time a case of *subacute* posterior urethritis without complications, 3, when chronic posterior urethritis lasts for a long time, and has caused infiltration of the submucous tissues, then the application of a sound with ichthyol salve gives the best results

Dr F E Kelly of Lamoille, Ill , read a paper on "Varicocele " The author outlined the operation for radical cure and the indications for its performance He considers Bennett's operation of resection of the veins and shortening of the spermatic cord the ideal radical procedure, which he described in detail

Dr R A Bate of Louisville read a paper on "The Arthritic Diathesis " The term "diathesis" is applied to an inherited predisposition to altered nutrition He assumed in diathesis an inability on the part of the cells to produce oxidation He mentioned the diseases generally conceded to be dependent upon the arthritic diathesis He has experienced favorable results from antilithemic remedies in glycosuria, nasal and bronchial asthma, lithiasis, albuminuria, obesity, eczema, paresis, rheumatism, angina pectoris, recurrent typhlitis, vertigo, biliousness, dyspepsia, neuralgia and migraine

Dr Albert E Sterne of Indianapolis contributed a paper entitled "A Triology of Diseases Acute Articular Rheumatism, Endocarditis and Chorea " He advanced considerations concerning the nature of these three affections and of the connection of chorea with manifestly infectious disease, namely, acute articular rheumatism A case was reported in point While he could report several instances of chorea associated with both arthritis and heart lesions, this is the only case known to him where the sequence of this triology seemed distinctly connected with a suppurating injury, following a fairly incontestable portal to the invasion of the ordinary pus microbes to the system If it be admitted that valvular disease is mainly rheumatic, or at least infectious in character, then the list of cases of chorea connected with the diathesis becomes much greater, inasmuch as from 25 to 50 per cent (Osler) of cardiac patients give a history of chorea Looking at the question impartially, it seems almost imperative to assume an intimate relationship between the three diseases

The following preamble and resolutions were offered and unanimously adopted

Whereas, The general public, the medical profession and the drug trade of the United States have long suffered extortion at the hands of foreign manufacturers of synthetic remedies , and

Whereas, Our lax and indulgent patent laws bestow a triple monopoly upon the process, the composition and the name of chemic products for medicinal use, thus excluding every possibility of a healthy competition , and

Whereas, The same evil has been recently disclosed in the domain of biologic medicine by the patent granted Prof Emil Behring and the Hoechst Farbwerke on anti diphtheritic serum, a patent which could not be obtained in Germany, France, England, or Canada , therefore be it

Resolved, By the Mississippi Valley Medical Association that the seal of its condemnation be placed upon the unethical and unprofessional conduct of Professor Behring , that it is the duty of every member to renounce the use of the Behring serum , and that the American manufacturers who purpose contesting the patent in the courts are entitled to the moral and substantial support of every American practitioner ,

Resolved, That an earnest appeal be made to the members of the commission on the revision of our patent and trademark laws, appointed by President McKinley, and their assistance invoked for the modification of existing laws and the suppression of prevailing abuses ,

Resolved, That a copy of these resolutions be sent to every medical journal in the United States and to the members of said commission, as follows Hon Arthur P Greeley, assistant commissioner of patents, Washington, D C , Hon Peter Grosscup, Chicago, and Mr Francis Forbes, New York City ,

Resolved, That the members of this Society be urged to write their Congressional representatives at Washington and bespeak their support of any measures of relief ultimately proposed by the commission

The following officers were elected for the ensuing year

President—Dr Duncan Eve, Nashville
First Vice President—Dr A J Ochsner, Chicago
Second Vice President—Dr J C Morfit St Louis
Secretary—Dr Henry E Tuley, Louisville, re elected
Treasurer—Dr Dudley S Reynolds, Louisville, re elected

Chicago was selected as the place for holding the next meeting, the time of which is to be fixed by the committee of arrangements and the executive officers

Seventieth Congress of German Naturalists and Physicians

These congresses are always well attended, and prove an instructive intercommunication of ideas in various domains of science It was held this year at Dusseldorf, with over 2300 registered

Professor Klein delivered the first address, on the necessity *of courses in the universities* to complete the instruction afforded by the technical and medical colleges, for those who wish to acquire a special knowledge beyond the average required for the ordinary career, mentioning as an instance and a distinct progress, the advanced course in physical processes on the largest scale, at the Gottingen University, illustrated by heating appliances, dynamos, etc , supplied by private initiative, a company formed of prominent engineers and firms, who supplement their gift with their advice

Professor Tillman's address on "One Hundred Years in Surgery " pointed out the lines for the further development of surgery in the scientific deepening of surgical pathology and the closest co operation with the other branches of medicine, especially internal

V Noorden recommended Trousseau's forgotten treatment of asthma bronchiale with atropin, commencing with 5 and increasing progressively to 4 milligrams and then decreasing. No secondary effects have been observed and this treatment wards off a recurrence of the affection for a long while, although it has little effect on an existing attack

Blum considers the thyroid gland a deintoxicant He affirms that the iodin found in the gland is used to neutralize toxins The toxic substances in the blood which normally are taken up and rendered inoffensive by the thyroid pass into the circulation after removal of the gland, and cause not only clinical but pathologic anatomic symptoms of irritation in the central nervous system, which correspond in every way to the disturbances caused by intoxications The toxin is therefore a nerve toxin, which is generated normally in the organism, and normally is arrested by the thyroid and deprived of its toxicity

Dreser described the effects of heroin, a new morphin derivative, which is tenfold as effective as codein in rendering the breathing slower, while only one tenth as toxic He has found it very valuable as a cough medicine , dose 0 01 It also doubles the volume and strength of the inspiration and favors the lungs by relaxing the muscles throughout the body

W Schmidt described the simple technic of his fermentation test of the functions of the intestines, which sometimes gives the clue to disturbances of the small intestine in the absence of all other symptoms It is based on the principle of the tests of the X deficit in the gastric juice by after digestion, showing which of the unused remains of the food are to be considered as pathologic appearances and which as normal losses

Schultze's surgical treatment of lupus of the face covers the defect with whole flaps taken from the neck after the patches have been excised If the mucous membrane of the nose is involved, he first removes the skin and leaves the membrane till a month later To limit the plastic operation as much as possible he detaches the nostrils from the back of the nose and extends them until entirely healed, when he sutures them in place again He waits from six to twelve months after extirpation of the lupus patches before he reconstructs a total defect of the nose or lips In 57 cases he has had eight relapses around the edges

Engel and Albus reported successful treatment of lupus with the Roentgen ray

Krabbel recommends a metal shield to protect the sound skin

Frank, in the discussion of Cesarean section, observed that the danger of hemorrhage depends less upon the manner of incision than upon the location of the placenta, although the danger of infection is greater, the more the uterus is handled

Everke stated that the results of Cesarean section would not be more unfavorable than the results of perforation, if the cases were seen earlier, and attributed his 11 per cent mortality from sepsis in thirty five cases to the fact that all cases had been repeatedly examined before reaching him He warned against the danger of operating before actual labor had commenced In his three cases of sepsis after conservative section, he found the uterine wound gaping The main point therefore is a perfect suture of the uterus To accomplish this he now applies inner, decidual threads tied on the side of the uterus, with additional, outer threads, deep and superficial, tied toward the peritoneal cavity Five of his conservatively treated patients have borne children since

Escherich discussed the significance of bacteria in the etiology of gastro intestinal disturbances of infants, stating that wherever there was evident infection and contagion a chain coccus was invariably found in the feces and vomit, which Heubner confirmed, and after death, in the viscera, especially the lungs He found that in the disturbances unmistakably caused by the bacillus coli, there was a serum reaction, as in typhus but only with bacilli cultivated from the same individual He has found disinfection of the intestines unreliable, but has derived great benefit from dietetic measures that influenced the bacterial vegetation by altering the food stratum These infective affections require more care than hitherto supposed, to avoid contact infection, and keep them apart from suppurating wounds and septic matters, as in the prophylaxis of puerperal fever

M Mendelsohn delivered an able address on "Nursing the Sick" He ranks it as "a *science* with an exceptionally large number of means at its disposal to accomplish its ends" and, with scientifically applied stimuli affect the functions of the organism and control blood pressure, perspiration, respiration, sleep, etc Further research in regard to therapeutically effective stimuli should be accompanied with scientific study of their application by the nurse

Goldberg related the extremely beneficial results he had attained in urogenital tuberculosis, with 1 0 to 3 0 ichthyol *per diem* in a fluid form Not only did the general health improve, but all the local phenomena were favorably affected

Schede added three and Krabbel one, to the eight cases on record (Graf) of permanent recovery after an operation to relieve severe Jacksonian epilepsy Success is only probable when all the symptoms are present

B Bendix reported his investigation of 140 women to determine the effect of menstruation on the lacteal secretion He found that the menses returned in 60 per cent during the nursing period, usually commencing six to eight weeks post partum, but they did not affect the milk, or so slightly as to be unimportant in most cases, and hence that, everything else being favorable, there is no need to reject a wet nurse on this account Even a slight decrease in the quantity of richness of the milk during the period soon adjusts itself and does not affect the child

Bardenheuer proclaimed the necessity of extremely radical procedure in tuberculous hip processes, not hesitating to remove large pieces of the pelvis, which possesses immense regenerating power He fastens the articulation, as he finds that without this measure the musculature of the femur becomes relaxed in time, and the femur finally slips past the acetabulum

Wolff reported nineteen cases of extensive resection of the pelvis for tuberculosis with abscesses in 80 per cent, in one case extending from the iliac crest to the knee The anamnesis is especially important in the diagnosis as even a trifling injury may induce it Many persons who are suspected of simulation or neurasthenia are in reality affected with tuberculosis of the synchondrosis sacro iliaca, finally disclosed by the breaking through of an abscess Suppurating meningitis or rectal paralysis may follow the extensive operation, but less effectual intervention is sure to leave a permanent fistula He endorses Bardenheuer's method, which he has followed in twelve cases with five deaths The first incision is carried along the iliac crest to the spina ant sup, followed by a perpendicular incision to the sacrum, close to the synchondrosis The lower transverse incision is then made as far as the tuber ischii The whole of the musculature is then raised with the periosteum, followed by an incision along the labium int cristæ ilii, subperiosteal detaching of the psoas from above downward, and sawing with the Gigli saw from the foramen to the spina ant inf The ileum can then be worked loose He showed some radiographs illustrating the remarkable regeneration of the pelvis afterward

Krabbel described the twelve cases in which he has extirpated the spleen, with seven recoveries If there is prolapsus, it is apt to be dangerous

Leichtenstern called attention to the cystitis and tumors in the bladder which affect persons handling toluidin and naphthylamin in anilin works

Naunyn, in his address on "Cholelithiasis," advocated surgical intervention in acute and chronic cystitis, cholangioitis acutissima, but with incarcerated stones, chronic colangioitis, and pericholangioitis with adhesions, fistula or carcinoma the intervention should be preceded with a thorough Carlsbad course He recommends a course at home, drinking morning and afternoon, three or four glasses of Carlsbad water—the artificial preferred never the dissolved salts—and lying down for three hours twice a day, with large, thick linseed cataplasms over the region, avoiding beer and wine, fat and raw food In seeking carcinoma metastases he warned never to forget to palpate Douglas's pouch Löbker's statistics showed two deaths out of 172 cases operated in the last eight years (157 women and 15 men), of whom 10 per cent. had carcinoma

Other communications on "Formaldehyde Disinfection" "Malt Soup for Sick Infants," "Tetanus," etc have already been summarized in the Journal

Schlossmann exhibited his disinfecting apparatus, which filled the hall with mist in a few minutes

Ninth Italian Congress of Internal Medicine

Guido Baccelli turned from the duties of Minister of State to preside over the meeting of this congress at Turin in October He mentioned in his opening address, as an instance of the marvels accomplished by the endovenous injection of heroic medicines, that Robert Koch, who is now in Italy making a comparative study of "Malaria," after his experiences in South Africa, was recently examining a couple of cases of extremely severe pernicious "malaria," one in the pre agonic stage, and requested that the cadaver be sent to him the next day, but a single endovenous injection of quinin placed the patient on his feet again to the amazement of all The subjects for the day were

VENESECTION AND ORGAN THERAPY

He observed that he had seen most remarkable results follow venesection, especially in capillary bronchitis and acute nephritis He explains its action in the latter case by the fact that the peripheral pressure of the effusion in inflammation of Bowman's capsule, presses on the small blood vessels and retards the circulation through the delicate apparatus of the glomerulus, from which the entire functional economy of the kidney suffers, the epithelium undergoes fatty degeneration, and the urine diminishes in quantity with symptoms of progressively increasing toxemia He has saved and even secured complete regeneration of the kidney in hundreds of cases like this by opening a vein in the foot Rummo concluded his address on organ therapy with the remark that this new branch of therapeutics is firmly based on observation and experience but requires additional research, which should be conducted patiently and seriously, without sensational notoriety Bozzolo summed up the question from the practical point of view that the thyroid has a most important position in therapeutics, the thymus and ovary are also important, the testes of some utility and the kidney and liver promising No other organ has as yet found practical application

Maragliano's address on "Venesection" confirmed the benefits and limitations of phlebotomy as proclaimed by Galen "the depletion and depuration of the organism," adding that Sanquirico has established that within certain limits, venesection never produces functional alterations nor disturbances in the nutrition in animals He also states that the muscular fibers of the heart are nearly always found slightly altered in dogs, enough to suggest fatty degeneration, which some investigators have noted after venesection, to which they attributed it He has also observed a certain number of tiny drops of fat in the capillaries of the dog's brain in the normal condition, which also throws light on the fatty degeneration of the capillaries observed in anemia consecutive to venesection The composition of the blood, he continued, is not constant, but subject to changes, which, however, never affect any of the functions of the organism He even considers it possible that the entire number of corpuscles are not all actively engaged at once, and that a part can substitute and perform the function of the whole He reported a number of tests and experiments demonstrating that impoverishing the blood has no injurious effect upon the evolution of infective diseases, but is even directly beneficial when the lungs are not working properly and are unable to eliminate the excess of carbonic acid formed in a blood particularly rich in red corpuscles Traube expressed this fact when he stated that persons whose blood contains less red corpuscles than the average are less affected by pulmonary disturbances than others and even a small amount of lung surface is sufficient to eliminate their carbonic acid This fact explains the manifest improvement after venesection in pneumonia which he has observed again and again in his own practice the dyspnea and cyanosis decrease, while the elimination of carbonic acid increases On the other hand in cases of circumscribed pulmonary lesions, the elimination of carbonic acid decreases after venesection, showing that the elimination had been practically normal Recent research (Robin) has proved that venesection promotes oxidation processes in pneumonia and everything tends to the assumption that when the corpuscles are inert they are useless He agrees with Zakharine that venesection is especially beneficial in active congestions with hemorrhage especially of the respiratory apparatus and brain The amount necessary to obtain mechanical effect required in these cases is from 200 to 400 Zakharine even ascribes a [illegible] to phlebo claiming that the congestion may be drawn to a remote vascular region, and Calabrese added two corroboratory observations of severe, rebellious hemoptysis in tuberculosis, arrested by a few leeches applied to the base of the thorax Maragliano also dwelt upon the advantages of venesection in eliminating the toxins circulating in the blood, especially in renal or pulmonary insufficiency, or when there is some obstacle to the passage of bile into the intestines, and also in the autointoxications resulting, usually, from the suppression or functional alteration of the organs designed for the defense of the organism against the poisons it manufactures spontaneously Bouchard has demonstrated that 500 grams of blood taken from an uremic subject contains 8 grams of extractive matters, i e , about the same amount as is eliminated normally by the kidneys during the twenty four hours The attempt has been made in cerebrospinal meningitis to clear the blood by venesection of all the toxic substances accumulating in it, and favorable results have been obtained with it in diplococcic toxemia, combined with salt solution, especially in regard to the complicating hyposystolic phenomena, although these facts are not yet fully established In uremic intoxication, an amount varying from 500 to 1000 c c is withdrawn The simultaneous injection of salt solution, preventing variation in the blood pressure, enables a larger amount to be taken than would be otherwise possible Attempts have also been made to stimulate the formation of blood in rebellious anemia by withdrawing a small amount, 50 to 100 c c

CHLOROSIS

Riva Rocci explains chlorosis as the result of an insufficiency of the biochemic function of the red corpuscles, combined with a lack of hemoglobin The "hypoglobulia" and poikilocytosis are merely secondary causes Aporti's investigations have established that in vertebrates, the cytogenesis and the hemoglobin genesis are independent of each other The corpuscle is born colorless and gradually takes on color as it manufactures its own hemoglobin out of the iron in the organism The corpuscles of chlorotic subjects seem to have less aptitude for the manufacture of hemoglobin If this primary cause of chlorosis is admitted, it is easy to understand the heredity of chlorosis, its recurrences, appearance at puberty, etc He reported research which proves that iron increases the amount of hemoglobin, while arsenic increases the number of the red corpuscles He noted the remarkable improvement attained with Blaud's pills, taken in the large dose of twenty to twenty five a day

De Renzi emphasized the benefits and complete cures secured with rest in bed, and Devoto reported eight chlorotics in whom absolute repose produced prompt and decided improvement, without iron The appetite returned in ten days and the cure was complete in forty, in a case he described at some length Zoia mentioned that Bizzozero's demonstration of the formation of the red corpuscles in the marrow in adults, led him to study the ferratin in the marrow, and he was surprised to find it only present in the most insignificant amount, compared to what is found in the liver, which fact confirms Riva Rocci's theory

De Dominicis attributes the albuminuria to gastro intestinal autointoxication a certain, sudden, intense albuminuria observed, with edema, in which the kidneys are no more involved than the other organs, and return to normal with appropriate dietetic measures or lavage of the blood

"Post infective Interstitial Nephritis and Renal Sclerosis" were explained by Patella, who injected animals with urine from pneumonia and typhus patients, finding that the pneumococcus and Eberth's bacillus are capable of producing various alterations in the kidneys, especially interstitial nephritis, from which a sclerous process develops

Benvenuti announced that "primary splenomegalia" is the result of an intoxication and not of an infection It is difficult to differentiate from pure splenic anemia, but is indicated by cirrhotic alterations if they are present, although there does not seem to be any connection between the lesions of the spleen and those of the liver in many cases The splenic lesions are characterized by fibro adenia

Marenghi described regeneration of the peripheral nerve fibers, from some experiments in which he had cut the pneumogastric on one side and fifteen days later on the other, and six days afterward excised the portion of the nerve first cut with the cicatrix The microscope revealed the entire absence of nerve fibers at the cicatrix, from which he concludes that the re establishment of the function of the severed nerve does not depend upon its regeneration, but is effected by means of collateral nerve routes

Buschini called attention to the diagnostic value of the slight rhythmic jerks of the head that accompany the pulsation in cases of aneurysm of the aorta, noted by Coop They disappear about twenty four hours before the rupture of the aneurysm, and may disappear partially or entirely if clots form in the aneurysm

In connection with the Congress there was a most interesting exhibition to illustrate the history of medicine, with autograph works and reproductions of the priceless treasures of the Vatican and other museums, and collections throughout the country, among them Leonardo da Vinci's anatomic drawings with his autograph notes in his peculiar style of "mirror writing" One case contained reproductions of thevotive offerings and designs carved on the pillars of the ancient temple of Esculapius at Tevere There were also autograph and unpublished manuscript by Malpighi, Rolandi, and other famous names The *Gazetta degli Osp* of October 2 contains reproductions of some of the curious illustrations of these early works on medicine

Italian Congress of Hygiene

Turin not only welcomed the Congress of Internal Medicien in October, but also the Congress of Surgery and the Congress of Hygiene, all three remarkable for the number of leading men, who occupy important political positions, in which respect Italy is exceptionally favored

Among the subjects treated was the success of Professor Sclavo's serotherapy of anthrax, which has been found effectual not only in animals but in man The Congress passed resolutions urging the government to provide means to produce this serum on a larger scale

Mattei reported the efficacy of fluid extract of lemon in the prophylaxis and cure of 'malaria," confirmed by the experience of a number present, but for fear that the lay public might be led to neglect the use of quinin, the lemon treatment was not generally endorsed, and the subject was referred to the next congress for further discussion

Ottolenghi stated that a three per thousand solution of corrosive sublimate will not kill the bacilli in tuberculous sputa, but this is accomplished with a 10 per cent solution of lysol It was decided that this matter be agitated until an unfailing disinfectant be definitely accepted for this purpose

The necessity of greater uniformity in the technique of bacteriologic analysis of waters, was emphasized, to enable comparison of the work in different laboratories

Resolutions were passed in favor of a central department of public health, and the Congress adjourned to meet next year at Como, where the centennial of the invention of the Voltaic pile is to be celebrated

SELECTIONS

Gheel Insane Colony —The *Charities Review* for October considers the question of the influence of a colony of dements or feeble minded upon the neighboring community To begin with, it should be borne in mind that the Gheel colony for Belgic insane dates back about thirteen centuries, beginning on a small scale and progressing with varying fortunes until the present, when almost every home in the town is a part of the great cottage hospital utilized by the State For all these centuries the insane have had the run of the streets of Gheel, and the citizens' familiarity with the whims and caprices of their guests eliminates every look and tone that might point to any inequalities of condition, and in time the newcomer learns to act as he sees others act When a new patient arrives he is taken to the infirmary, a comfortable building in the outskirts of the town Here the first diagnosis is made, and if there is no fear of violence to himself or others, he is put in the general ward for closer observation The nurse is summoned to take to his home his new charge, and he is told as much of the patient's history as he should know, in addition to explicit directions as to the diet and care that is demanded The patient is taken at once into entirely new surroundings, into a home, in fact, where he will be regarded with interest and not suspicion Occupation is also provided as far as possible and the guest encouraged by pay and praise to assist in the work of the house or farm, and in the withdrawal of his thoughts from himself he takes an interest in the joys and sorrows, trials and labors of those around him The rules do not allow any family to take more than two patients, and prescribe in explicit terms the care which they must receive, the way in which the rooms must be furnished, the clothing to be worn, the beds on which they sleep, and the food provided The physician must visit each patient at least once a month, and the inspectors drop in at irregular intervals Since the majority of the households of Gheel are supported by their insane boarders it is important that the rules should be obeyed, but this is not the only motive for acting humanely When we recall that for generation after generation the people have been daily exercising patience and showing sympathy, it is easy to see that it is the very nature of these people to be kind and gentle One of the questions which frames itself in the minds of all who hear of this unique institution is "How does this large contingent of feeble minded affect the native population?" The daily association with the simple from childhood on would surely influence more and more each generation, but it does not appear to be the case, and in fact, the great success which has attended the college at Gheel proves conclusively that the Gheelois are as clever as any of their neighbors The explanation for this unexpected immunity from mental atrophy is that the entire population is apparently oblivious to the presence in their midst of anything abnormal If this were not the case, it is easy to see how 2000 insane living in the homes and walking the streets might cast a blighting influence over their environment The colony releases as cured or benefited a yearly average of perhaps 20 per 1000, although efforts are made to reserve the colony for the least promising cases, keeping the curables at home

Health Resort in Southern India —The mountain resorts at Simla and Darjeeling, India, are comparatively familiar names to English and American readers, but Kodaikanal, a sanitarium nearer the south end of the peninsula, is seldom spoken of It is 7200 feet above the sea, near the summit of the Pulney mountains, and has been especially advantageous to missionaries for nearly half a century Two American missionaries were the first to ascend the precipitous mountains and find there a relief for the deadly burning heat of the lower plains Groves, springs and a lake exist and add to the climatic attractions of the place, and a railroad now runs not far from the foot of the peak Stone houses have been erected around and above the lake, and their accommodations are well nigh exhausted during April and May, the two most trying of the hot months of the year, in Southern India It is a great boon for the adult members of the foreign missions, and also for their children, to have this outing, which saves in many cases the expensive trip to America, when recuperation becomes imperative Rev Jacob Chamberlain, M D , writing to the *Missionary Review* about the history of this lofty resort, says "It is singular that nearly all the great sanitaria of India, north and south, are at practically the same elevation above the sea, Simla being 7116, Darjeeling 7168, Ootacamund, 7271, Kodaikanal 7209 Simla is the summer capital of the Viceroy Darjeeling of Bengal, and Ootacamund of Madras, and hosts of government officials, with their families, accompany the governors there, and other Europeans swarm those places Kodaikanal, however, is a smaller and more quiet place Its climate is less damp than many of the hill stations Being nearer the equator, in latitude 10 degrees and 15 minutes north, its climate varies but little in different seasons of the year The thermometer 100 feet above the lake never goes below 40 degrees in the cold months, and it never rises above 76 degrees in hot months In January and February, frost is seen on the shores of the lake, but never 100 feet above In April and May, the hottest months, the mercury seldom marks above 75 degrees or below 60 degrees, thus varying less than 15 degrees night and day, week in and week out Essentially the same of the temperature during the hot months of the year, might be said of nearly all the great sanitaria of India There is not the real tonic effect of frost upon the system It does not build one up who is run down as a winter in the temperate zone does, but an occasional change to one of these sanitaria is exceedingly helpful in preventing the utter break down that has wrecked many a promising missionary career too near its beginning

New Mexico as a Health Resort — In *Public Health* for September, Dr Curtiss Bailey writes at length and with illustrative diagrams, regarding certain climatic peculiarities of "the dry belt of the West," especially of Las Vegas in New Mexico The climate of New Mexico, though far from ideal, can only be understood and appreciated by comparison with that of other States and countries A survey of its climatic conditions, such as its altitude, its southerly latitude, its even average temperature, its low humidity, the small amount of precipitation, its excess of sunshine, the minute amounts of aqueous vapor contained in its atmosphere, its isolation from large populous centers, its great distance from large bodies of water, its immunity from high winds and sandstorms, and its freedom from unsanitary surroundings, should convince the reader that there does not exist a better or more ideal climate for the elimination of disease and the restoration of health One of the prime factors of climate is wind While it is true that severe winds scour the high plateaus and mesas of the Rockies, yet in localities like Las Vegas Hot Springs, which is situated beneath and sheltered by foot hills, high winds never occur At Santa Fe, a town fifty miles distant, where the velocity of the wind is, if anything, in excess of that of Las Vegas Hot Springs, we find the annual velocity 60,891 miles This compares favorably with certain other American cities The prevailing winds, which are westerly, cross the snowclad peaks of the Rockies, and those foot hill districts which, covered with terebinthinate growths, saturate them with balsamic odors and healing powers No large cities interposing to contaminate them, the air here compares with that of midocean, the purest known The coolness of the nights, which renders sleep possible and pleasant, is explained by the difference which exists between the sun and shade in high altitudes as compared with sea level It is estimated that for every 235 feet rise, a difference of 1 degree F is found between sun and shade This accounts for the warmth of the sun early in the day, and also explains the rapid fall of temperature at sunset There is no doubt that the beneficial effects of sunshine increase with altitude But favorable as may be these conditions, the vast differences do not exist which are generally accredited New Mexico as compared with lower altitudes Nature demands the same from her children wherever they be, her laws are equally in force everywhere The conveniences and luxuries of home life can not be sacrificed by the invalid upon the altar of climate The intelligence, direction and watchful care are as important in one locality as in another The bed ridden at home can not rough it on the plains and mountains of New Mexico and expect favorable results Many have been the disappointments because of such erroneous impressions Exposures at home, due to atmospheric changes, are both frequent and dangerous, the same is true in New Mexico, even though it be in a lesser degree The patient needs medical assistance and attention as much on the table lands of the Rockies as within his native environment Whatever is necessary for the recuperation and restoration of health at sea level is equally essential in New Mexico, for climate, though of primary importance in combating disease in the more serious affections must call to its aid those methods which, applied under less favorable atmospheric conditions, are of no avail

PRACTICAL NOTES

Gastric Fermentations —The following mixture is prescribed by M Einhorn for the fermentations connected with gastrectasia from stenosis of the pylorus Resorcin 4 gm , bismuth subnitrate 20 gm , aq dest 200 gm A tablespoonful in a glass of water half an hour before meals three times a day —*Semaine Méd* , September 14

Intrauterine Injections.—Tipiakoy recommends in salpingo ovaritis and parametritis, irrigation of the uterus with a tepid five per thousand solution of sublimate, continued for three or four weeks It is also very beneficial preliminary to an operation on the adnexa, by reducing the tumefaction and inflammation —*Semaine Méd* , August 24

Hemostasis with Gelatin —All the inconveniences of tampons and the dangers of renewing the hemorrhage when they are renewed, after ablation of tumors of the nose, are avoided by dropping a little 1 per cent gelatinized water from a syringe on the pedicle of the tumor after the first severest gush has been arrested by compression The clot forms almost instantaneously Every time the blood appears, check it afresh with the gelatin, warning the patient not to blow his nose, and to stay in bed twenty four hours, and instil gelatinized or oxygenated water every two hours —*Semaine Méd* , September 14

Treatment of Varicocele —The assistant stands at the right of the reclining patient and pushes the testes up against the pubis, holding the scrotum between the fore and second finger of his left hand, while with the right he draws out the double wall of the inferior portion into a flat, square apron The operator then inserts a Reverdin needle into the scrotum just below the testes, and a ligature is made, passing through the derma and tied moderately tight, so that the drawn up bag thus formed of the under portion of the scrotum, hangs directly beneath the testes, neither in front nor behind Chloroform is unnecessary —Professor Nimier *Revue de Chirurgie*, October 10

Mitigations of Graves' Disease —Dr Roland G Curtiss of Philadelphia (*Internat Clinics*, Vol ii, Series v, p 78) concludes an article on this affection as follows Graves' disease is hereditary, therefore the marriage of those having such an inheritance should be discouraged A person with such an inheritance should reside at an elevation of more than 500 feet, should avoid great excitment or any highly exciting occupation , should shun a residence in a limestone region, and hesitate to select a home in a locality where the disease is common, no matter what the locality may be, and should avoid any cause of anemia, as well as excessive study, prolonged mental or sexual strain or anything likely to induce a neurasthenic condition

Ergot in Chronic Malaria —Jacobi (*Med News*, October 22) reports cases and concludes from his use of ergot that 1 Certain cases of chronic intermittent fever occur, with large tumefaction of the spleen, which, having resisted the action of quinin, arsenic, etc , are benefited by ergot 2 The contracting effect of the ergot is noticed within a reasonable time, when the splenic enlargement is not old or firmly established 3 The attacks will disappear before the diminution in the size of the spleen is very marked 4 Chills are not noted, as a rule, after the use of ergot, though temperature remains irregular 5 Plasmodia do not disappear so rapidly as with quinin where the latter is effective, though many apparently intractable cases get well with ergot

Aneson, the New Anesthetic —This is a colorless, aqueous solution of thrichlor pseudobutyl alcohol or aceton chloroform and corresponds to a 2 to 2 5 solution of cocain, but has none of the latter's local irritation and is non toxic As much as seventeen grams have been used without after effects The anesthetic effect is also immediate, with no interval, as with cocain In suturing, a small amount of aneson injected at the points where the stitches are to be taken will prevent pain Even inflammatory phlegmonous processes can be rendered perfectly insensible if sufficient aneson is used to keep them flooded all the time The anesthesia was not perfect in all cases, but this can be said of all other anesthetics L Sternberge of Berlin concludes his report of a dozen tests of aneson in the *Klin Therap Woch* , of September 25 by recommending it as a useful and safe anesthetic

Peripheral Neuritis —The connection between peripheral neuritis and chronic deforming rheumatism is evidenced by thirteen observations on record in which a peripheral neuritis was noted with chronic deforming rheumatism, one observation of spinal menigitis and six observations of alterations in the spinal cord accompanying pronounced peripheral neuritis Pitres and Carriére comment on these cases (*two personal*) that the neuritis is not the essential cause of the rheumatism by any means, but probably plays an important part in the production and localization of the trophic alterations of chronic rheumatism and is itself the effect of the antecedent lesions of the tissues or of the humors of whose nature we are still ignorant The neuritis is evidently a sort of intermediary between the general disease, the rheumatism, and the articular dystrophy —*Archiv Clin de Bordeaux*, August

Purulent Ophthalmia and Ophthalmia Neonatorum —In these diseases Jenkins (*Med Record*, October 29) uses the following Argenti nitratis, gr v x , acaciæ, ʒi (or q s), aquæ destillatæ, ʒss, petrolati liquidi, ʒss, to be made into an emulsion and shaken well before using He believes the various potent solutions and crayon applications often do more injury to the eye than the diseases, and that this emulsion is the least injurious and most efficacious in all forms of purulent disease of the eye In the initial stage the customary treatment for blenorrhea is to be followed, the emulsion resorted to on the establishment of suppuration, when, the patient on his back and the lids everted, the eye being cleansed with a hot 1 to 5000 sublimate or potassium permanganate solution, two or more minims are dropped into the eye The surgeon should then manipulate the everted lids so that the emulsionpenetrates "to the utmost recesses of the folds of transition of the conjunctiva " The emulsion should at first be used every twelve or twenty four hours , afterward twenty four, forty eight or sixty hours, until the discharge entirely ceases

Gelatin in Aneurysms —Lancereaux presented a couple of patients at a recent meeting of the Paris Académie de Médecine, cured by subcutaneous injections of 150 to 250 c c of a solution containing 2 gm of gelatin to 100 gm physiologic salt solution One patient had received twelve injections in the gluteal region between January and May, and two new aneurysms, appearing lower down, were definitely arrested with a single injection Nature heals an aneurysm by the formation of clots in the cavity of the sac, until the lumen becomes as small as the rest of the artery The aim of therapeutics should therefore be to assist nature in the formation of these clots, and this can be accomplished by rendering the blood more coagulable with gelatin A sac shaped aneuryism, with its slower current and uneven walls, is especially amenable to this treatment, but a spindle shaped dilation is not affected by it He reported five observations and Huchard another The latter by this method has arrested uncontrollable hemoptysis in a tuberculous patient Fournier called attention to the extreme frequency of syphilis in the etiology of aneurysm of the aorta, noting that one of the patients presented was a syphilitic, and mentioned a new cause of error in the diagnosis of aneurysm of the aorta of syphilitic origin the appearance of a large gummatous patch in front of the aorta which presents every indication and is accompanied by all the symptoms of aneurysm of the aorta, but is in reality nothing of the kind It yields readily to specific treatment, but it must not be supposed that it is an aneurysm that has been cured —*Bulletin*, October 11

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE INCLUDING POSTAGE
Per Annum in Advance $5 00
Foreign Postage 2 00
Single Copies 10 Cents
In requesting change of address give old as well as new location

Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION
No 61 Market Street Occidental Bldg) Chicago Illinois

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION

This is obtainable at any time by a member of any State or local Medical Society which is entitled to send delegates to the Association All that is necessary is for the applicant to write to the Treasurer of the Association Dr Henry P Newman 100 Washington St. Chicago Ill sending him a certificate or statement that the applicant is in good standing in his own Society signed by the President and Secretary of said Society Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership

On receipt of the subscription the weekly JOURNAL of the Association will be *forwarded regularly*

Gentlemen already members of the Association should send their annual subscription to the Treasurer or direct to the JOURNAL office

All communications and manuscripts of whatever character intended for publication in the JOURNAL should be addressed to the E[illegible] and all communications relative to the business of the JOURNAL, proof-sheets returned or in regard to subscriptions should be addressed to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION 61 Market Street (Occidental Buildings) Chicago

Original communications are only received with the understanding that they are exclusively contributed to this JOURNAL

SATURDAY NOVEMBER 12. 1898

THE RELATION OF MALARIA TO RENAL DISEASE

The profession is coming to recognize more and more the interdependence in health and disease which exists between the various organs of the body and that maladies which exert their primary and dominant influence upon one organ may simultaneously or consequently seriously derange another part far removed from the site of the early lesion In no organs of the body is this interdependence of function better developed than in those which occupy the abdominal cavity, or lie in adjacent parts and as a result of this we see secondary renal changes following diseases in the liver, the spleen and the intestinal canal in a considerable number of maladies It is, however particularly in those diseases which are called infectious that the kidneys are apt to suffer, for they are the organs by which the toxins or poisonous matters produced by the infecting micro-organism must be chiefly eliminated from the body, and it is for this reason, in all probability, that nephritis so frequently follows scarlet fever and other acute infections As the years go by it becomes evident that primary renal disease is much less frequent than it was originally considered to be and more commonly it is recognized as a purely secondary affection

In this connection recent studies which have been made concerning the influence of malarial infection upon the kidney are of very great interest and it seems to be the universal experience of those who have made a careful study of malarial infection that albuminuria indicating renal difficulty due to malaria is exceedingly common Thus OSLER states that it occurred in 46.4 per cent of the cases in his wards and THAYER has recently shown that casts of the urinary tubules were found in 17.5 per cent of the cases indicating that there was a true inflammation of the kidney in these cases of the disease Furthermore he has also shown that in 1832 cases of nephritis 26 were of malarial origin In confirmation of these statistics KERLEY has also reported the case of a child of 18 months who developed malarial nephritis and he quotes MONCORVO S article, in which it is stated that in Rio Janeiro it is not rare to find children suffering from acute nephritis as the result of malarial poisoning

FRUITNIGHT has also reported similar cases, and it is evident that physicians called upon to treat malarial cases should carefully watch the state of the kidneys by a constant examination of the urine

These facts are also interesting in connection with the well-known antagonism of many prominent practitioners to the use of quinin in malarial fever associated with renal changes and we believe that great caution is necessary concerning the use of this medicament particularly when the kidneys are involved first because quinin in large doses acts as an irritant to the kidney and second because it has been found in cases where the kidneys were manifestly impaired that the drug seemed to produce serious renal complications No less an authority than Koch on his return from Africa, has asserted that the abuse of quinin in severe malarial infection of the estivo-autumnal type is responsible for many of the complications seen in the malignant forms of malarial fever in that country It seems to be universally agreed that it is the estivo-autumnal parasite which most frequently produces nephritis Yet this is the type in which the physician is most tempted to push the drug, as it is the least affected by ordinary doses of quinin In other words, that form of malarial infection which, by its persistency, would lead to the use of large quantities of quinin also produces a condition of the kidney which makes the use of large doses of this drug of doubtful advantage

A PSYCHOLOGIC QUESTION OF PRACTICAL IMPORTANCE

Once in a while but fortunately not very often we hear of an accident by land or sea which is utterly unaccounted for on any ordinary rules guiding human conduct and which seems to demand or at least justify, the presumption that there are psychologic moments, in which, without any special stress or emergency, there is sometimes a sort of mental vertigo concerning more particularly the judgment of those in whose hands important interests are placed involving property and even human life A few years ago a great English battleship went do[illegible] col[illegible] the latter directly due to orders giv[illegible] who at the time was considered the [illegible] competent of his rank in the British navy An order was given by him, and repeated in spite of all the remonstrances that the strict discipline of the service would permit, that ignored the plainest rules of common sense, and the carrying of it out cost the lives of some four hundred British sailors and of one of the most formidable of England's fighting ships It appeared from the inquiry into the disaster that there was no revealable cause for its occurrence other than some inexplicable mental condition on the part of the admiral, by reason of which he had, in spite of his perfect knowledge of the facts, considered the safe turning radius of the ship to be some hundreds of feet less than it really was, a sort of mental process in which one ordinarily a good mathemetician will for the moment conceive that two and two make five or some other equally improbable proposition Other similar instances can be adduced, a conductor, for example, in spite of explicit train orders, signals his engineer to start out to certain disaster, and very recently a powerful, well-found steamer was lost with serious sacrifice of human life under conditions that are difficult to appreciate without some such presumption as has been mentioned The ship was miles off her proper course, was headed in the wrong direction, the captain, one of the most trusted and reliable of all those employed by the company owning the ship, was himself in charge of the deck at the time of the accident, and the rocks upon which the vessel struck were well-known dangers, while the conditions of weather, daylight, etc, were not such as to excuse the disaster on other grounds

It would be natural to suppose that the temporary mental derangement that caused these accidents might be due to alcoholic indulgence on the part of those responsible, but this probability seems to be ruled out by the evidence in some cases, and we must look further for the cause It can not, moreover, be commonly attributed to mental strain or excitement, for such conditions often are notably absent We seem to be restricted by exclusion to this view that able and competent men are subject, under certain special conditions which are, as yet, not clearly understood, to a paralysis of judgment, or rather, perhaps it should be said, to an absolute inability to realize at the moment the real relation of things and the consequences of this non-recognition This theory has been strongly brought out in the discussion of Admiral TRYON'S case, and it has much to be said in its favor In minor matters we not infrequently hear people say that they can not explain why they did this or that irrational act, the impulse of the moment, a partial defect of attention or some other excuse generally serving for an explanation at the time It is only when the consequences are serious, as in case of shipwreck or railroad disaster, that the subject receives much attention or excites general interest That such conditions should occur in those who have the most important interests in charge makes the subject one of special importance, requiring careful inquiry into the causes and prevention, especially in those whose judgment and attention are taxed The question arises whether they may not be overtaxed and this be a direct cause of their occasional failure It is well known that locomotive engineers sometimes break down completely after long-continued nervous strain, and are then sometimes even subject to hallucinations that affect their judgment in critical cases This, however, may be another matter altogether from the momentary intellectual derangement that makes a shipmaster or railway conductor give an order directly contrary to his own better judgment, with disaster, it may be, as the result We may assume that there is in some of these cases an intellectual *petit mal*, but it is more reasonable to refer them to something less distinctly pathologic and more in the common order of events Such errors of attention and judgment must be occurring frequently in common life, but being without specially evil consequences, they are commonly overlooked or forgotten That they may occur also when every reason should be against it, and in those who by education and training ought to be particularly on their guard against them, only raises the question of their investigation

A study of all known accidents from this cause, taking into consideration not only the habits, conditions, surroundings, age and all other circumstances of those responsible, would be a possibly valuable contribution, but thorough and extensive investigations into the pathology of attention generally are likely to be the means by which we are to obtain the more practically valuable results The time may come when those in responsible positions requiring quickness of attention and perception and reliability of judgment, like certain railway employes and other officials, will have to undergo examinations by trained psychologists, to test their fitness in these respects At present we require tests for the special senses and some of their refinements, such as color perception, but it is not hard to see that the faculties of attention and intellectual quickness are even more important It is hard to find accidents by land or sea that can be exclusively attributed to color blindness or other special defects, but some temporary higher intellectual aberration is fairly forced on our attention as a cause of such disasters

BLOOD CRYSTALS

The hematologist frequently encounters under the microscope crystalloid bodies of varied shapes and sizes As a rule these are without any practical significance Their presence, however, may be accounted for in various ways In the first place they may be of hemoglobin We have known for a considerable time that though the hemoglobin of human blood resists laboratory crystallization, that of some of the lower animals, notably the guinea-pig, can be readily crystallized outside the body In the healthy blood crystallized hemoglobin can be easily demonstrated a large drop of blood is placed upon a slide, and after coagulation of the margin has taken place the cover is lowered gently, and after from twelve to twenty-four hours the hemoglobin appears as rhombic crystals In diseased blood, and particularly in leukemia, pernicious anemia, and the septic processes, septicemia and pyemia, it appears much earlier—from a few minutes to a few hours It may be noted here that human hemoglobin always crystallizes as reduced hemoglobin, a point which may serve to distinguish human blood from that of the lower animals It would seem that from the readiness with which crystallized hemoglobin appears in conditions of the blood attended with destruction of the red corpuscles, its early presence indicated a retrograde condition on the part of the blood

Hematoidin crystals are of more frequent occurrence They are almost always described as a constituent of old blood extravasations, cysts, spleen infarcts old thrombi, and especially old cerebral softening In the anemias, pernicious anemia and leukemia, these crystals are often found within the white corpuscles, though this may occur in a specimen of healthy blood as well

Found more frequently in leukemic blood than in any other diseased condition are the so called CHARCOT LEYDEN crystals, though they are by no means peculiar to this disease They occur as long, colorless, pointed needles, and are identical with the spermin crystals found in the seminal fluid It would seem from the above that, as far as our knowledge now extends, the presence of these crystals aids us practically nothing in the study of the blood, the only fact of importance being their early presence and in increased numbers in blood which is undergoing a progressive loss in its vitality

THE ASSOCIATION OF TRAUMATISM AND INFECTION

During the early part of 1898 we published in the JOURNAL an editorial dealing with this subject, in which it was pointed out that the relationship between traumatism and infection possessed an interest not only to the medical man, but also to the lawyer, in that comparatively mild injuries might result in severe infections in so short a space of time that the patient s death might be directly attributed to the accident As some of the literature covering this matter was quoted in that editorial it is not necessary at present to quote it a second time, but it is interesting to note that very recently two American investigators, CHEESMAN and MELTZER, have published in the *Journal of Experimental Medicine* a research to determine how far injury of a part rendered it susceptible to infectious processes We need not quote the tehnique which they employed nor the literature which they studied in the preparation of their research, but it is worthy of note that they found that any interference with the function of an organ caused micro organisms introduced into the blood to grow with great rapidity and to produce grave injury, and, further, that if one of the organs, such as the spleen for example, were injured and the animal infected with a pathogenic micro-organism, these micro-organisms found lodgment at the site of these lesions and developed with extraordinary rapidity and virulence They also found that although micro-organisms might be injected into the blood-stream these micro-organisms speedily disappeared from the current and were found congregated, not in the healthy organs, but in that which had been injured They also cite a remarkable fact, namely, that even after the injection of bacteria into the blood this fluid remains sterile in many instances On the ground that blood is a liquid tissue it is suggested that it, like other tissues, permits the growth of bacteria only when it has been injured, all of which goes to emphasize the scientific basis for the well-known clinical fact that any condition of injury or debility in one part of the body renders an individual so affected susceptible to almost any infection to which he may be exposed Thus we see how clinical observation and empiric statements can be and are substantiated by scientific research from year to year All these facts also emphasize the importance of preparing a patient who is about to be subject to a surgical operation, in such a way that every organ in the body is in proper functional activity and strength, so that it may not be prone to infection should the blood become thrown open to disease micro organisms How often do we see tubercular areas attacked by the operator in the bones or in the pelvis, without the physician first taking heed that the pulmonary organs are in as good condition as it is possible to put them in, and how frequently the physician meets with cases in which, as a result of operations, secondary infections have ensued Many of the cases of so-called ether pneumonia, post-operative nephritis and similar conditions, might perhaps be avoided if particular pains were taken in every case to have every organ in the body prepared to resist disease to the greatest extent before the patient is put to the test of endurance

THE COMMISSION EVIL

An evil has lately sprung up which is not specially creditable to those concerned this is the practice of paying commissions or rebates by specialists to persons bringing them cases A few years since the medical world was set sneering, by the well authenticated report that in a certain city the physicians sent out drummers to board incoming trains and by skillful touting to secure business for their respective employ ers Fabulous tales were told of the wealth piled up in this way, and when the light was turned on this practice, the Legislature enacted a law that all persons engaged in this business should wear a badge This put an end to this scandal There is little difference between these now obsolete methods and those now practiced in many of our Northern cities, only that professional men are employed as drummers and the slice of the fee is larger

Another variety of this commercialism has reached the hitherto honest practitioner in the country The plan is this Dr A brings a patient to Specialist B or General Surgeon C A says, "here is a man abundantly able to pay a good fee, charge him liberally, but I want one-third or one half" Should the specialist or the general surgeon refuse to accede to this proposition, the patient is taken elsewhere to some less scrupulous brother

The wrong is to the unsuspecting victim, he trusts his family physician to send him to the specialist of his selection to be sure, but he has a moral right to expect that selection to be made on honest judgment and not with regard to the division of a great fee Nor is this practice fair to the specialist and surgeon, for they get the credit of charging an exorbitant fee, only a part of which they actually receive

No Let each practitioner have his regular and proper fee, and if any division must be made, let the patient know exactly whom he is paying

THE WAR INVESTIGATING COMMITTEE

The War Committee of Investigation visited Chicago this week and took testimony of various volunteer medical officers Colonel SENN, Dr CUTHBERTSON and others testified As the testimony was of general interest we will reproduce it in our next issue

CORRESPONDENCE

Braces in Spinal Curvature A Discussion of a Few Points found in an Editorial of Sept 10, 1898, in the Journal of the American Medical Association

NEW YORK, Oct 31, 1898

To the Editor —I observe in the JOURNAL of September 10 an editorial on "Curvature of the Spine," which is so far at variance with clinical observations, scientific facts, and known truths, that I believe, in the interest of the profession and the unfortunate individuals afflicted with this deformity, that a short discussion of the editoral and its subject matter, will not be wholly out of place

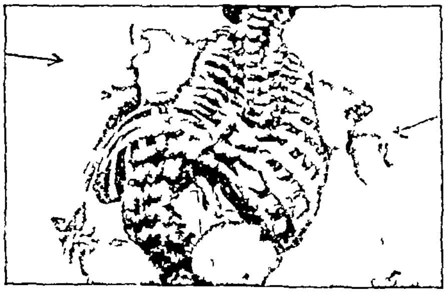
I quote from the editorial "What greater mistake can there be in medicine than that of fitting a brace to a child suffering from spinal curvature?" "What folly, what total lack of reason it would seem to put a splint on a weak muscle!" "The fault is entirely one of nutrition and development"

These statements are misleading, both to the profession and to the patient They are arbitrary in their inception, empiric and unscientific as an edict These statements would lead the reader to believe that all cases were attended with weak or paralyzed muscles as an etiologic factor Now, I am prepared to state and demonstrate, that not all cases of lateral curvature of the spine are attended with weak or paralyzed muscles as an etiologic factor Cases of lateral curvature of the spine, due to a short leg or bad position in sitting, have their origin primarily in bone changes Many cases of lateral curvature of the spine begin in bone disease located on one side of the body of the vertebræ, which disease leads to a lateral curve by the destruction of bone, and in other instances by the absorption of the intervertebral cartilages and bone from pressure In such cases the muscles have nothing whatever to do with pathologic changes which take place in the bone Such cases are not by any means rare nor in the minority, and I would like to ask whether these wholesale edicts which are promulgated in the editorial are intended to apply to such cases as I have just mentioned, which clinical observations demonstrate, and the entire orthopedic profession, perhaps, with an occasional exception, will verify In such cases, the weakness of muscle occurring on one side (the convex) of the curve is a secondary result, depending entirely on the primary curve in the bone, and surely, to prevent further destruction by absorption of the vertebræ or intervertebral cartilages, a support to relieve pressure is of paramount importance In deformities of the extremities caused by paralysis of muscle, and more especially so called spastic paralysis, the only way to prevent bone and ligamentous changes, which would result in hopeless deformities, is by applying appropriate braces and even resorting to extensive tenotomy or myotomy to weaken the strong muscles, thus establishing normal compensation between the muscles The same rule holds good in lateral curvature of the spine The spinal column is a flexible lever operated upon by masses of muscle on either side of it If one set of muscles is two or three times stronger than the antagonizing ones, lateral curvature will result, in spite of gymnastics, massage or electricity, unless the spinal column can be reinforced by a proper brace to hold it in a straight position, to prevent absorption of bone by pressure I, therefore, can see no "folly nor lack of reason," in applying a suitable support to lateral curvature of the spine, any more than I can see "folly or lack of reason" in applying a brace to a foot paralyzed, to prevent talipes varo equinos

It may be argued that massage will prevent a clubfoot occurring in spastic paralysis This I know, with an occasional exception, is impossible, because I have tried it in a large number of cases It may also be argued that massage and gymnastics, without bracing, will cure all cases of lateral curvature of the spine This I also know to be an error, because I have seen scores of cases treated with gymnastics and massage by our best orthopedic surgeons in this city, and still these cases have gone on increasing in curve, due to pressure absorption Proper bracing, together with gymnastics and forcible redressment, should be the rule of treatment in cases requiring it One may as well attempt to straighten a crooked mast of a ship, which had become warped and bent by the weather, by tightening the shrouds and stays, as to straighten cases of lateral curvature of the spine of the second degree with gymnastics and massage without proper bracing

Another quotation from the editorial "There are in medicine and surgery a number of conditions which are hidden from observation and palpation, perhaps they are further obscured by a feeling of uncertainty in the anatomy of the part, and at no time in the course of the disease can we see, feel or measure in millimeters the exact extent of the lesion The physician will invariably draw down the curtain of obscurity before such a case, lose his clearness of vision and make haphazard thrusts at both diagnosis and treatment" There are many factors in the etiology of lateral curvature of the spine, which the profession know but little about We are perfectly familiar with pathologic conditions which take place in lateral curvature of the spine The dissecting room has told the story We also know of something like eight or ten different causes of this curvature, but we do not know the whole of them It is for this reason that I believe your editorial makes a mistake in its dictum in stating "What greater mistake can there be in medicine than that of fitting a brace to a child suffering from spinal curvature?" This edict would imply *a perfect knowledge of the etiology of all forms of lateral curvature and that it was always to be found in the muscles alone* This together with, "The fault is entirely one of nutrition and development," is a mistake

In many cases changes due to nutrition and development are secondary, the curve not being caused by weak or paralyzed muscles, but by other potent agency e g, rachitis, bad position, a short leg and even a diseased vertebra Surely these conditions require bracing, together with proper treatment, after bone changes in the vertebral columns have taken place Then a little further on, I find all the causes of lateral curvature summed up in the following sentence "The predisposing causes are prolonged ill health, rapid growth and rickets, occurring in girls between 12 and 20 years, while the exciting causes may be a one sided position at school, a faulty position in standing, an obliquity in the pelvis, and it would seem from the fact that it is usually right sided that a hypertrophy of the muscles on this side acts as a prominent factor" Now, as a matter of fact, the hypertrophy of the muscles is not upon the side of convexity If the hypertrophied muscles were upon that side they alone would strengthen the spine, and there would be no occasion for gymnastics or other exercises The paralyzed or weak muscles are always upon the side of convexity and not on the side of concavity



When the deviation from the median line amounts to more than one half of the diameter of the vertebræ, it will invariably increase, under any form of treatment short of proper bracing to relieve the pressure at the point of curve, for the reason that the weight of the head and shoulders, upon the flexible spine, while the patient is in an upright position, will constantly exert pressure on that point, and absorption will go on as many hours a day as the patient is in an upright position, no matter if the muscles are developed in strength and size to those of a gymnast

The illustration appended represents an advanced form of double lateral rotary spinal curvature with its attending bone changes On the left side the ribs are approximated and even overlapping The intercostal muscles and ligaments on the left side are put upon the stretch while upon the right they are contracted and have become shortened or destroyed In the lower curve the transverse processes upon the concave side of the curve have become firmly locked together, as also they have in the upper curve, while upon the convex side of both curves, the transverse processes are as widely separated as the ligaments will permit In both these curves the vertebræ have become thin and wedged shaped the point of the wedge beidg directed toward the concave curve The muscles in this specimen were found to be degenerated and almost entirely destroyed over the convexity of the curve, while they were shortened and nearly normal in the concavity of the curves The spine is rotated in the direction of each of the curves, following the law that "rotation takes place in the direction of curve" Gymnastics could only be harmful in a case of this kind, nothing but appropriate bracing could arrest the progress of the deformity, and *nothing could be done to change the pathologic curves in the bone* It would be necessary to change the shape of the thorax and ribs, and lengthen the intercostal muscles and ligaments to effect a cure, which is impossible

Muscles do not hold the spine erect. There never was a greater error taught Muscles only balance the spine Ligaments and the bony construction of the spinal column, together with intermittent action of the muscles to balance the spine, hold the spine erect Muscles would tire out if they were put upon the stretch for any length of time, as can be illustrated by an effort to hold the arm in a horizontal position from the body, it will quickly fall to the side, and the muscles become temporarily paralyzed Then, again, poliomyelitis paralyzes groups of muscles, which is a very frequent cause of lateral curvature How are we going to restore tone to these muscles short of curing the lesion in the spinal cord, inasmuch as we know that these lesions are usually permanent, paralysis of muscles on one side allows of lateral deviation, and the weight of the head and shoulders producing pressure at the point of curve must necessarily result in absorption of the vertebræ by pressure through the lifetime of the individual? On the concave side of the curve will be found the shortened ligaments and shortened fibrous elements of the muscle We know that when similar conditions exist in the muscles in the lower extremities, and spastic changes have taken place, nothing but a tenotomy and possibly an extensive myotomy will relieve the deformity *Gymnastics and massage are of little use, or positively harmful in such cases* The knife and proper bracing, together with gymnastics to assist in strengthening the opposing muscles, if they were not totally paralyzed on the convex side of the curve, are truly indicated

That "the ligaments are lax and insecure," is not the fact, the ligaments are positively put upon the stretch on the convex side of the curve and upon the concave side are contracted and shortened, together with the fibrous structure of the muscles Pathologic specimens in my possession, which I have dissected out, demonstrate these facts The idea that ligaments are "lax and insecure" originated in the *mind* of the "gymnastic" orthopedic years ago The dissecting room explains the error, as it has many of the absurd theories in regard to deformities To the quotation "Apparatus only defeats the object of the treatment in a great majority of cases by preventing development, an apparatus, no matter how skilfully constructed, can not correct a deformity of this kind," I may add that *no amount of gymnastics or other exercises can, or every has, diminished the curve due to bone changes in lateral curvature of the spine* When the vertebræ have become deformed from destruction of bone, from absorption due to pressure, and changes have taken place in the ribs and intercostal muscles, that deformity will remain, and the sooner writers upon the subject admit this fact the better it will be for both surgeons and patients The most that can be accomplished is to arrest the deformity by preventing further changes at the point of curve by pressure, and aid in the formation of compensatory curves *That apparatus prevents development is as erroneous as the statement is incorrect* An apparatus which is only worn when the patient is in an upright position in connection with proper gymnastics and other exercises does not prevent development, but on the contrary such patients will more rapidly develop muscles that are weak than without it Clinical observations demonstrate this fact To illustrate In club feet the extensor muscles have become weak on account of the feet having been drawn around to an abnormal position by the stronger muscles putting the weaker on [illegible]

This stretching of the anterior tibial group of muscles produces degeneration and temporary paralysis by pressure. The sheath and fibrous tissue of the muscle are approximated by stretching, making pressure upon the muscle cell. These same pathologic changes take place in the muscle of the back on the side of the convexity, and, as in club feet, these muscles will not regain their tone until the tension is taken off them, and this is best done, in club feet, by overcoming the deformity immediately, by operating and bracing, and in the spine, by taking the tension off the muscles by putting the spine in an extended position. When the spine is so extended a proper support will hold it so while the patient is erect. This can only be done by an apparatus of some sort or recumbency in bed.

I am very sorry that it was necessary for me to write this letter, but as I stated in the beginning, it seems to me that the points which the editorial mentioned should be open to discussion in the JOURNAL. A. M. PHELPS, M.D.

"The Jugglery of Statistics"—A Bungling Prestidigitator

PHILADELPHIA, Oct. 30, 1898.

To the Editor:—In answer to your correspondent who writes under a part of the above title, permit me to quote a reply which appears in the *Philadelphia Medical Journal* of November 5:

"The Jugglery of Statistics, a Reply to an Absurd Editorial" is the title of an article occupying one and one fourth columns in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION of Oct. 29, 1898, and written by Dr. Charles Smart, Deputy Surgeon General of the U. S. Army. The writer is very scornful and contemptuous of the statistics of medical men in general, and of the *Philadelphia Medical Journal* in particular, viewing all of us from the lofty point of an expert dealing with ignoramuses. He admits the accuracy of the figures given in our editorial, namely, that in the Civil War 66.6 per cent. of deaths were from disease, and in the Spanish War 88.1 per cent. It was this difference that we thought needed explanation, and with all deference to our cynic critic we still think it demands it. This is the way we are disposed of:

"The absurdity of this may be well illustrated by adding to the statistics and ratios given above those derived from the reports of the engagement of Admiral Dewey's fleet on May 1, 1898, at Manila. Dewey's fight lasted only one day. The figures given for the Spanish War covered a period of five months, and those of the Civil War a period of five years and two months; but as the element of time does not enter into the calculations of the ratios criticised this element need not be considered in the engagement at Manila. Here we find that no man was killed, no man died of wounds received, but that one man, an engineer officer, succumbed to heat exhaustion or insolation. Stating these figures as percentages of the total mortality we find: killed 0 per cent., died of wounds 0 per cent., died of disease 100 per cent., as compared with 88.1 per cent. in the Spanish War, and with 66.6 per cent. in the War of the Rebellion. If it is not needful for the Honorable Sirs to give such high consideration to the greater death rate from disease as compared with the deaths from wounds and deaths on the battlefield in the Spanish War considered as a whole, how serious is the consideration they ought to give to this frightful rate of mortality from disease as compared with that from battle casualties in the Bay of Manila."

Now, is there a schoolboy of ten years of age who could not see the 'absurdity of this?" If so, he should be whipped and put to his "arithmetic" again. What right has Dr. Smart to say that "the element of time does not enter into the calculation?" It is precisely this element of time that gives the subject any intelligibility whatsoever. The figures are for the entire periods of the two wars. Were there not a great many days during the Civil War when, no battles occurring, there were no deaths whatever from battle or from wounds, but in which large numbers died from disease? Will not our critic kindly spare us from the necessity of replying to such utter nonsense in future? And will he not also spare us the discourtesy of applying his contemptuous remarks to himself? The death from the heat exhaustion at Manila, by the way, did not occur during, but some time after the battle. The "element of time" being excluded, the percentages of deaths *during the entire Spanish American War* were as follows: killed, 0 per cent., died of wounds, 0 per cent., died of disease, 0 per cent. Q. E. D.

We add as a postscript to the above two thoughts which, as it occurs to us, have not been heretofore brought out: 1. The Civil War was longer, and therefore the number of deaths from disease would necessarily be enormously greater relatively than in a war of short duration. 2. The figures quoted of the deaths from disease in our recent war were made up some time ago, but since then additional deaths have been occurring every day. And the end is not yet reached. The percentage given of deaths from disease in the late war is consequently too low. Such considerations will have no weight with expert statisticians who think that "the element of time does not enter into the calculations." Respectfully yours,

GEO. M. GOULD, M.D.

Retarded Delivery

RYAN, IOWA, Oct. 29, 1898.

To the Editor:—The writer was called Thursday evening, October 20, to attend Mrs. C., a primipara, aged 21 years, with small but roomy pelvis and fine muscular development. Vigorous pains were established by 11 P. M., with the position right occipito anterior. Dilatation of the cervix was soon complete, and matters advanced steadily till early morning when, with the head well down on the perineum, and strong pains, all progress ceased. At 7:30 A. M., the mother showing signs of nervous and physical exhaustion, forceps were applied and the head easily delivered. The cord was found tightly wound around the child's neck. Traction on the cord resulted in severing its placental attachment and the child was quickly delivered. On measurement, the cord was found to be nine inches in length, and had evidently furnished one, if not the chief cause for the retarded delivery.

A. H. SCOFIELD, A. M., M.D.

BOOK NOTICES

A Manual of Otology. By GORHAM BACON, A. B., M.D., Professor of Otology, Cornell University Medical College, New York; Aural Surgeon, New York Eye and Ear Infirmary. With an introductory chapter by Clarence Blake, M.D., Professor of Otology in Harvard University. New York and Philadelphia: Lea Brothers & Co., 1898.

This manual, written for students, furnishes in a very compact form all the information they need about the anatomy, physiology and the diseases of the ear. To impress upon the student the close relation of the upper air passages to aural diseases, the author has added a chapter on adenoid growths, enlarged tonsils and diseases of the nasal passages. The book is well written, small and inexpensive and undoubtedly will become popular with the students. It is profusely illustrated, and contains a colored plate representing a brain abscess. If colored plates at all, we should think in a manual of otology a series of colored pictures representing the drumhead in health and disease would certainly be far more appropriate than the picture of a brain abscess.

Medical Communications of the Massachusetts Medical Society. Volume xvii, No. 3. Boston: 1898.

The contents of this volume are: 1, "Annual Discourses," by William T. Councilman, M.D. 2. "Some Modern Methods of the Treatment of Phthisis and its Symptoms," by Edward O. Otis, M.D. 3. "Types of Habit Neuro Psychoses," by Edward W. Taylor, M.D. 4. "The Toxin of Diphtheria and its Antitoxin," by Theobald Smith, M.D. 5. "Recent Progress in the

Bacteriology of Typhoid Fever " by Mark W Richardson, M D 6 "Epidemic Cerebro Spinal Meningitis," by Arthur H Wetworth, M D 7 "The Educational Treatment of Neurasthenia and Certain Hysteric States," by Morton Prince, M D 8 "The Question of the Curability of Cancer of the Breast," by J Collins Warren, M D 9 "Correction by Operation of Some Nasal Deformities and Disfigurements," by George H Marks, M D 10 "Formaldehyde Gas as a Disinfectant," by David D Brough, M D 11 "The Pathology of Acute Infectious Osteomyelitis," by Edward H Nicholas, M D 12. "The Shattuck Lectures, the Influence of the North American Climate on the People," by Sir William H Hingston, M D The volume concludes with the proceedings, Councils of the Society and reports of the various officers The articles are of a high class, and the volume shows that the advanced standing taken by the authors and the papers constitute marked additions to American medical literature

The Care of the Baby, a Manual for Mothers and Nurses, Containing Practical Directions for the Management of Infancy and Childhood in Health and in Disease By J P CROZER GRIFFITH, M D Second edition Revised Pp 404 Philadelphia W B Saunders, 1898 Price $1 50

The work is considerably larger than the former edition and is much improved It has been completely revised and some new illustrations have been added The work is designed particularly for mothers anxious to inform themselves with regard to the best way of caring for their children in sickness and in health, but is not intended in any way to take the place of the physician, indeed, the physician will find it of great service, as an aid to his efforts and in maintaining his authority

A Manual of Venereal Diseases By JAMES R HAYDEN, M D, with 54 illustrations Pp 304 New York and Philadelphia Lea Bros & Co, 1898

This is the second edition, and, like all Gaul, it is divided into three parts, 1, being devoted to gonorrhea and its complications, 2, to the chancroid, and 3, to syphilis There are nineteen chapters in the first part, two in the second and twenty two in the third It is concisely written and its teachings are sound We regret to see that the old British system of weights and measures is adhered to in the prescription writing

Hygiene of the Voice, with Twenty seven Illustrations By THOMAS F RUMBOLD, M D Paper, 114 pp St Louis, Mo Witt Publishing Company, 1898

The author states in his preface that his own experience teaches him not only that none but medical men should attempt the treatment of voice users, but only specialists who have limited their practice to diseases of the throat, nose and ear should treat these diseases This is not a book on treatment, per se, but a book which is intended to inculcate knowledge of the laws of vocal hygiene Its teachings are wise and conservative

The Essentials of Materia Medica, Therapeutics, and Prescription Writings Arranged in the form of questions and answers prepared especially for students of medicine By HENRY MORRIS, M D Pp 288 Fifth edition, revised and enlarged Philadelphia W B Saunders, 1898 Price $1 00

We are pleased to see in this little volume that the metric system of weights and measures, has been introduced and that otherwise it has been revised and brought up to date It follows closely the last edition of the United States Pharmacopeia and will be found very useful to those for whom it has been prepared

The Pocket Formulary for the Treatment of Diseases in Children By LUDWIG FREYBERGER, M D, Vienna Flexible covers Pp 208 London Rebman Publishing Company, Limited 1898

In this "Formulary" prepared of the drugs used in the treatment of children the names are arranged alphabetically, and the volume concludes with a therapeutic index It will be found very useful as a remembrancer, and convenient for immediate reference

Twenty fifth Annual Session of the Florida Medical Association — Paper Pp 161 Jacksonville Vance Printing Co 1898

This volume comprises the papers and proceedings of the twenty fifth annual session of this body, held at Jacksonville, Fla, April 26, 1898, also the constitution of this association and the Code of Ethics of the AMERICAN MEDICAL ASSOCIATION, with a list of members of the Florida Association The volume lacks an index

The American Pocket Medical Dictionary Edited by W A NEWMAN DORLAND, A M, M D, Assistant Obstetrician to the Hospital of the University of Pennsylvania, etc Containing the pronunciation and definition of over 26,000 of the terms used in medicine and the kindred sciences, along with over sixty extensive tables Philadelphia W B Saunders 1898 Price $1 25 net

This is a handy pocket dictionary which is so full and complete that it puts to shame some of the more pretentious volumes We commend it

Tenth Report of the State Board of Health of the State of Maine 1896-1897 Paper Pp 395 Augusta Kennebec Journal Print, 1898

This report is for the two years ending Dec 31, 1897, contains a list of the members of the Board, the Secretary's report and two special papers, one a "Bacteriologic Report upon Formaldehyde," by Prof F C Robinson and B L Bryant, and one entitled "Notes on Disinfectants and Disinfection," by the Secretary, A G Young, also printed separately and so noticed in the JOURNAL's book notices

Pamphlets Received

Abuse and Dangers of Cocain, The By W Scheppegrell New Orleans Reprinted from Med News

An Additional Case of Double Congenital Microphthalmos What Should the General Practioner Know About the Eye? By Cassius D Wescott, Chicago Reprinted from Journal American Medical Association and The Corpusle

Annual Report of the Essex County Hospital for the Insane Newark N J Paper illustrated Pp 72

Arid Atmosphere of Our Houses in Winter The By Henry J Barnes, Boston Reprinted from Trans Am Pub Health Assn

Clinical Study of Interstitial Nephritis with Methods of Diagnosis By Everett J Brown, Decatur, Ill Reprinted from Med Record

Conservative Treatment of Fibroid Tumors by Myomectomy Conservative Treatment of Pelvic Suppuration of Puerperal Origin Operation for Restoration of Urethra and Closure of Vesico Vaginal Fistula Involving Neck of the Bladder Some of the Disadvantages of Vaginal Drainage for Pelvic Abscess By Charles P Noble Philadelphia Reprinted from Philadelphia Med Jour Am Jour of Obstet, and Am Gyn & Obstet Journal

Contribution to the Study of the Muscular Dystrophies a Orchitis or Epididymitis, as a Complication or Sequel to Typhoid Fever By A A Eshner Philadelphia Reprinted from Am Jour of the Med Sci and Phila Med Jour

Dangers of Specialism in Medicine The Manifestations of Syphilis in the Mouth By L Duncan Bulkley, New York City Reprints from Bul Am Acad of Med and Dental Cosmos

Deaths (Ten) Surgical and Causes Dermal Coverings of Animals and Plants Serpents and Their Venom Copperhead Coral and Rattlesnake By B Merrill Ricketts Cincinnati Reprinted from Lancet Clinic

Diseases of the Alimentary Canal Treatment By J O DeCourcy St Libory Ill Reprinted from Cour of Med

Effect of Hypertrophy of the Inferior Turbinal on the Nasal Septum By Lewis S Somers Philadelphia Reprinted from University Med Mag

Emotional Prodigality Melancholia By W N Sudduth Chicago Reprints

Endemic Leprosy in Louisiana By Isadore Dyer New Orleans La Reprinted from Phila Med Jour

Erosion of the Knee in Children with Conservation of the Epiphyseal Cartilage Preliminary Report on Treatment of Dislocation of the Hip by Operative and Manipulative Methods Questions in the Treatment of Congenital Dislocations of the Hip Scorbutus in Infants Some California Cases Traumatic Dislocations of the Hip in Children, Old and Recent By H M Sherman San Francisco Cal Reprints

Flies as Spreaders of Sickness in Camps By M A Veeder Lyons N Y Reprinted from Med Record

Individual Communion Cup and its Critics The By H S Anders Philadelphia Reprinted from Penn Med Jour

Intravenous Injection of Normal Saline Solution By H T Hanks New York City Reprinted from Am Gyn and Obstet Jour

Kryofin By A F Mind St Louis Mo Reprinted from Tri State Med Jour

List of Members of the Medical Association of the District of Columbia Paper Washington D C

Modern Treatment of Tuberculosis By Charles Denison Denver Colo Reprinted from Journal American Medical Association

My Names Appendicitis By Emma B Standley Mexi Ill Reprinted from Chicago Clinic

New Treatment for Trachoma By George F Keiper Lafayette Ind Reprinted from Ophthalmic Record

Plea for Posterity By A L Russel Midway Pa Reprinted from Phila Med Jour

Sleeplessness Its Cause and Treatment By J S [illegible] Mich Reprinted from the Phys and Surg

Two Cases of Fibroma of the Broad Ligament By John C [illegible] Philadelphia Pa Reprinted from Am Jour of Obstet

Trade Pamphlets

Caroid Am Ferment Co , Jersey City N J
Catalogue No 1 New York Med Book Co , New York City
Illustrated Announcement Harvey Med College, Chicago
New Medical Publications Lea Bros & Co , Phila and New York
Sprague Dry Heated Air Apparatus, the Sprague Hot Air Treatment Co , Chicago
Hunyadi János Natural Purgative Water Drawn from Saxlehner's Bitter Water Springs, near Budapest Cloth Illustrated Pp 113 Budapest Andreas Saxlehner 1898

PUBLIC HEALTH

An Official Warning —C A Lindsley, M D , secretary of the Connecticut State Board of Health, reminds his colleagues of the fact that during the last few weeks many soldiers have returned from the numerous military camps, convalescent from typhoid fever or taken down with it after their return Each of these cases is a source of further infection unless the precautions, which are now so well known and so effective, are carefully and scrupulously observed The infective agent is a living germ, which is thrown off in great abundance from every typhoid patient, with the excretions from his bowels and kidneys The immediate destruction of these germs by some disinfectant is the only means of safety The importation of so many cases into the State, and their wide distribution in various places, will be very likely to cause additional local outbreaks of the disease if vigilant and unremitting attention is not given to the thorough disinfection of the discharges from the patients and whatever of the bedding or clothing may be soiled by them Circulars on the means of preventing and restricting typhoid fever will be sent freely to any persons on application The sickroom should have in it only sufficient furniture for use and comfort, no carpets, tablecloths, pictures, draperies or ornamental hangings The practice of suspending towels and sheets about the sickroom, saturated with carbolic acid and other odorous solutions, cannot be commended It has little other effect than to frequently cause nausea and headache in the patient and attendants The mattress should be protected by an impervious rubber sheeting under the usual bed sheets Two or more will be necessary, so that they can be changed and cleaned as required The rubber sheet should be thoroughly sponged with carbolic solution then dried and aired in the sun for several hours The body and bed linen should be changed daily Never shake them As soon as removed immerse them in a disinfecting solution composed of carbolic acid and water, 1 part to 40, or in a bichlorid of mercury solution, 1 part to 1000 Let them soak four hours or longer, then boil them for half an hour and wash with soap All food brought into the sick room and not consumed by the patient should be burned The nurses should wash their hands whenever they may have become soiled by handling the patient or the clothing, and always before eating or leaving the room The same rule should be observed by the physicians and other attendants The importance of extreme cleanliness of the hands of the patient might be added as a means to the prevention of those relapses of fever that are the result of autoinfection During the prevalence of typhoid, it is prudent to boil all the drinking water and all the milk When such attention is given to disinfection, rigid isolation is not necessary and when disinfection is neglected, isolation will be of little importance —Circular No 75, 2d edition

Heavy Mortality by Plague in India —About two years have passed since the plague became epidemic in the Bombay district, and in that time over 105,500 deaths, or an average per month of 4400 deaths have been admitted to have occurred In addition to this huge total there have been many thousand deaths from the plague that have been registered as from other febrile causes In one week in September, this year, in the Bombay Presidency, there were reported 3635 cases and 2749 deaths by plague In Bombay City, the last week in September, there were 209 deaths, as compared with 127 in the week previous In Bombay Presidency the number of deaths increased from 3000 in the previous week to 4000, chiefly in Dharwar, Belgaum, Satara and Kolhapur Calcutta is free, and only one death is reported from Karachi, but the plague is becoming epidemic in Bangalore city, where 124 deaths have occurred Three cases are reported from Hyderabad State, three from Wallunden in the Punjaub, and sixteen in four districts of Madras The editor of the London *Lancet* makes the following comment "The quarantine and severely repressive measures which have been favored hitherto have, as we all know, given rise to a great deal of native discontent and opposition, and as they have not been attended with the successful results which were anticipated or hoped for, the Government of India has had to relax them The progress of the epidemic in India is conforming to what has been the history of plague elsewhere in the past and in China, the enforcement of land quarantine is attended with serious hardships and is moreover, simply impracticable , the natives would prefer to run the risk of contracting plague to submitting to the severely repressive measures hitherto enforced As a matter of policy the government is justified in relaxing them under the circumstances in which it is placed With regard to inoculation, remarkable success is reported from Hubli, and it is stated that no less than 32,000 people have gone through the process During the existing outbreak in that city only sixty nine of these have been attacked, while among 8500 uninoculated there have been 417 attacks If these figures be reliable they speak for themselves In the district around, however, there have been a large number of deaths, the Dharwar district, in which Hubli is situated, being credited with 1047 cases and 892 deaths To show how differently inoculation has been received at different places there remains only to compare Calcutta and Bombay, each with about 750,000 inhabitants and about 2000 and 20,000 persons inoculated respectively, against Hubli, with a population of about 40,000 and no less than 32,000 inoculations In Bombay there have been 27,305 deaths from plague, and in Calcutta about 200

Trichinous Pork Products in Germany —During the fifteen years beginning with the decree of 1883, forbidding the importation of American meat into Germany the latter country has official knowledge of 3003 cases of illness due to trichinæ, with 207 fatalities Of these there were 1242 cases, or 41 3 per cent of all, traced to European pork , deaths by this cause 102, or 49 7 per cent of all The remainder was due to a variety of sources, but in not one of these 3003 was it proven that the illness was caused by the use of American salted, pickled, or tinned meat, nor by smoked sausage imported under imperial decree of 1891 This statement holds good for all Germany In confirmation of this fact, a society of importers of meat hereinbefore mentioned has issued posters wherein a reward of $238 is offered to the person who can prove that trichinæ have been transferred to human beings by the consumption of American salted or pickled pork or smoked sausage imported under the imperial decree of 1891, canceling the edict forbidding the importation The inspection of American meats and sausages is much more rigid than the tests for the German home products The American product is twice inspected Before the meat leaves the United States, from each hog, as a whole, the inspector selects six samples or pieces, and from these pieces are taken eighteen cuts, to which is applied the miscroscopic test When this meat reaches Germany it is again cut into eight or ten pieces , from each of these the inspector selects three samples or pieces, and from each of these samples or pieces three are taken for the microscopic test This results in the inspection of ninety separate pieces from the American hog, while in the inspection of the German hog only eighteen pieces are tested It is reported that uninspected American hog products have been introduced into Germany from Belgium, in boxes in which other regularly inspected meats had been received from America bearing the label of microscopic inspection Originally, in the microscopic inspections in the United States the certificates thereof were the same as those given for usual ante and postmortem inspections, with the addition of a red stamp placed on the certificate stating that the goods mentioned were microscopically inspected and found free from trichinæ On one occasion a carload of bacon arrived at the custom house of Aix la Cha pelle, the certificate of which was without the red stamp The customhouse officers refused to let the car enter Germany and reported the case to the buyer at Duren This man wrote to the Antwerp firm that he refused to accept said car, because he was entitled to receive the meat regularly inspected as required by the German laws The seller at Antwerp replied that, in fact, the meats in question had been regularly in*spected microscopically*, and it was by mistake *that the* certificate did not bear the red stamp , that such an error happened sometimes, but that the United States consul in Antwerp would rectify the certificate if the buyer would return it for that purpose Unfortunately for the Düren merchant, he believed this story, sent the certificate back, and received it again two or three days afterward bearing now the red stamp He presented this document at the custom house at Aix la Chapelle, in order to have the carload entered into Germany , but the custom house officer had reported first to the American consul at Antwerp, and when he learned that the consul had neither changed the certificate nor been authorized to do so, the entrance into Germany was refused and the buyer placed under accusation of having falsified a public document After several years, the suit terminated in the Supreme Court at Leipzig with a sentence of the Duren merchant to eight days' imprisonment for assisting in the falsification of a public document The Belgian merchant, of course, could not be prosecuted in Germany How many times the Belgian port has sent into Germany uninspected meats, it is impossible to say It is rumored that a regular traffic in empty boxes with proper inspection labels and certificates has existed in Antwerp for some time, with a probability of a like organization in Rotterdam —' Consular Reports," October

SOCIETY NEWS.

Tri State Medical Association —At the annual meeting of this Association, at Birmingham, Ala , the following officers were elected and Chattanooga, Tenn , chosen as the next place of meeting President, George A Baxter, Chattanooga , first vice president, M C McGammon, Nashville , second vice president, W D Travis, Covington, Ga , third vice president, George S Brown, Birmingham , secretary, Frank Trester Smith, Chattanooga , treasurer, Cooper Holtzklaw, Chattanooga

Iowa State Association of Railway Surgeons —At the annual meeting held in Clinton, October 13 and 14, the following officers were elected for the current year President, H L Getz, Marshalltown , vice president, A L Wright, Carroll , treasurer, C B Powell, Albia , secretary, Ira K Gardner, New Hampton Ottumwa was selected as the next place of meeting, October, 1899

Washington, D C , Medical Society —The meeting of the society on the 2d inst was called to order by the president, Dr Busey, in memorial of the late Dr Lincoln Dr J Ford Thompson, chairman of the committee, read the resolutions of respect and condolence which had been prepared, and on motion they were adopted Dr I C Rosse read a memorial notice of Dr Lincoln, and eulogistic remarks were made by Drs Lovejoy, Makall, Loering, Murray, Godding, W W Johnston, Mary Parsons, and Morgan

Detroit Academy of Medicine —At the regular meeting, October 25, Dr E H Troy read a paper on "Cholera Infantum " He thought the bacteriology of the subject is in such confusion, little can at present be said on the subject, except to affirm that such violent vomiting and purging as always occurs in true cholera infantum can result only from the poisons produced by most virulent germs Such large, watery movements must result from severe depression to the central nervous system Hence the study along this line had been made in regard to treatment Two drugs were advocated for their effect the one on the central nervous system, and the other for its effect upon the nerve endings in the intestines, viz , chloral hydrate and dilute hydrocyanic acid, these had been given in small doses frequently repeated, and their action carefully noted In addition, enemata of normal saline solution had been used frequently repeated Under this treatment better results had been secured than with the older methods In the discussion it was stated that the lessened number of cases of cholera infantum in Detroit now as compared with twenty five years ago is as much due to improved sewerage and pavements as to the improved methods of feeding infants Further, the presence of the island park and the more extensive use of the Detroit River by the poorer classes has been a most potent factor in keeping the mortality down to its present level

Washington, D C , Medical and Surgical Society —The society met on October 31, in celebration of its decennial Dr Lewllyn Elliott, the president of the society, opened the exercises with an address, in which he outlined the history of the early formation of the society, tracing its growth during the past ten years and referring to the valuable papers and discussions by the different members He also referred to the future work and the good they might accomplish in the future of medicine and hygiene Dr Landon B Edwards of Richmond, Va , discussed the benefits of medical examining boards to the community and the medical profession Dr W W Johnston read a paper on the relation of health to education, based on his observation and study of the early education of children, and Dr George M Krober read one entitled "Higher Medical Education, and a Plea for Better Training for the Volunteer Medical Officer " He touched upon the losses of the army in the war with Spain, and praised the Surgeon General's conduct of his department He suggested that the medical colleges should pay attention to the line of work which would fit physicians especially for military service, and he called special attention to the excellent equipment and the facilities offered by Washington for the study of medicine, asserting that the many advantages were not fully known to many members of the medical profession The meeting closed with a banquet at which Dr Elliott presided Toasts were responded to by Drs Stone, Kelly, Kober, Edwards, Alden, Woodward, Bishop, Massen and Morgan

Southern Illinois Medical Association —The program of the meeting to be held in Cairo, Ill , Nov 17 and 18, 1898, includes "Influence of the Climate of New Mexico in the Treatment of Diseases of the Chest," by Wm Curtiss Bailey, Las Vegas Hot Springs, N M , 'Typhoid Fever—A Case with Unusual Manifestations," by A M Lee, Carbondale, Ill , discussion led by J W Armstrong, Centralia, Ill , "Report of Two Cases of Hydrophthalmos," by James Moores Ball, St Louis, discussion led by A C Corr, East St Louis, Ill , ' Typhoid Fever in a Country Practice," by S P Schroeder, Hazleton, Ill , discussion led by C W Sibley, Fairfield, Ill , "Sanitation and State Medicine," by A C Corr, East St Louis, Ill , discussion led by J W Pettit, Ottawa, Ill , "Some Reminiscenses of the Southern Illinois Medical Association," by H Wardner, Laporte, Ind , "Paretic Dementia," by F Samuel Dodds, Anna, Ill , discussion led by H C Hall, Omaha "Some Practical Observations in Typhoid Fever," by H V Ferrell, Carterville, Ill , "Case of Compound Dislocation of Knee Joint Complicated with Compound Fracture of Same Femur Above the Condyles , Leg Saved by Means of Hodgen s Splint," discussion led by Chas H Starkell, Belleville, Ill "Medical and Surgical Treatment of Renal Calculi, with Report of Seven Cases," by H C Mitchell, Carbondale, Ill , discussion led by Dr Bransford Lewis, St Louis , "The Importance of Early Operation in Cholelithiasis,' by A H Meisenbach, St Louis, discussion led by J H Mitchell Mt Vernon Ill "Some Neglected Signs in Gynecologic Examination," by Jno A Hale, Alto Bass, Ill , discussion led by B F Crebbs, Carmi, Ill ' Ectopic Gestation—Diagnosis and Treatment ' by J L Wiggins, East St Louis Ill discussion led by H H Mudd, St Louis , ' Rectal Diseases— Its Surgical Treatment ' by Phil H Stewart, Paducah Ky discussion led by Leon Strauss, St Louis "Peritoneal Abscess Simulating Fibroid Tumor," by H J Welsh, Cairo, Ill , discussion led by H C Gault, Sparta, Ill , "Personal Experience in Operating with the Use of Infiltration Anesthesia," by Louis T Riesmeyer, St Louis , "Ventro Fixation for Retroversion," by George Wiley Broome, St Louis , "Circumcision," by Wm A James, Chester, Ill, discussion led by H C Fairbrother, East St Louis, Ill

NECROLOGY

J D AMES, M D , Dekoven, Ky , aged 80 years, October 31 ——Peter H Brooks, M D , Lima, Ohio, October 28 ——J W Davis, M D , Smyrna, Tenn , October 31, aged 77 years —— Roswell Fox, M D , Wethersfield, Conn , October 26, aged 73 years ——S E Givan M D , Burney, Ind , October 25 ——J H Head, M D , Centralia, Mo , October 29, aged 58 years —— B H Paschall, M D , Arrington, Tenn , November 1, aged 73 years ——David Randall, M D , Morrisville, Vt , October 25 ——Albion P Snow, M D , Winthrop, Me , October 25, aged 69 years

DEATHS ABROAD —Professor Bouchacourt of Lyons, France, author of numerous works on obstetrics and gynecology, hydatic and hydatiform degeneration of the kidneys in the fetus, etc , 87 years of age ——Dr Heydenreich, professor of clinical surgery at Nancy, France , H Spondli, formerly professor of obstetrics at Zurich , D Toscani, professor of legal medicine, Rome ——Dr Slawiansky, professor of gynecology at St Petersburg

MISCELLANY

Through a typographical error the name of Prof Nicholas Senn was omitted from his War Correspondence (see page 1164)

Renal Surgery —Bazet of San Francisco, in a paper on the "Advances in and the Present State of Renal Surgery" (*Phil Med Jour* , October 22), reduces the conditions calling for operation in renal lithiasis, to three 1, calculus in a healthy kidney , 2, calculus in a diseased kidney , 3, anuria In the second condition, lesions due to aseptic calculi are characterized by sclerosis or hydronephrosis, and he considers removal of the organ by immediate nephrectomy most logical in the former, while calculus hydronephrosis requires conservative treatment, the kidney, "though thinned and disturbed" being still useful, primary nephrectomy being advised "only when the renal pocket is enormous and the parenchyma is reduced to the thickness of a thin sheet of paper ," otherwise nephrotomy is the operation to be selected, and is preferable in septic lesions with or without distention Anuria calls for immediate operation

Pharyngeal Adenoids —Delavan (*N Y Med Jour* , October 29) emphasizes thoroughness and humanity as the two essentials to success in operative treatment of this condition Atrophy of the remainder, after partial removal of an adenoid growth, he considers the exception , rather, the tissue remaining, being unhealthy, is likely to remain so, and may cause life long annoyance to the patient or injury to surrounding parts He considers in detail the various methods of removal and the anesthetics of use, advising complete anesthesia to secure ideal conditions for operating, and the blunt forceps for the most thorough removal

Infective Nature of Eclampsia —Professor Stroganoff asserts that eclampsia should be included among the infective diseases, giving as his reasons 1 That it is a general disease, affecting all the parenchymatous organs 2 That it is an acute affection, commencing explosively or after a certain prodrome 3 The fever that accompanies it occasionally, especially the postmortem thermic elevation peculiar to an infective disease 4 One attack confers immunity 5 The marked genus epidomicus , in 1897 25 per cent died, while in nineteen cases this year there has been no mortality 7 It is impossible to explain the increase of eclampsia in populous centers otherwise than by accepting the theory of its infective character, which he is now seeking to prove definitely His communication in *Wratsch,* Nos 26 to 35, contains tables showing the links in a number of series

The Heart —V Frey ascribes the rhythmic action of the heart to the muscles, remarking that every bit of the heart, whether it contains a ganglion or not, is capable of automatic activity The rhythmus is more rapid and less disturbed by extraneous influences, the nearer to the venous portion of the heart, which imposes its rhythm upon the whole The nerves of the heart are largely centripital, serving for the important reflexes on the organ, respiration and lungs The centrifugal nerves affect the normal muscular rhythm and peristalsis by altering the number and vigor of the contractions or the transmission of the impulse Trophic nerve action has not been established nor the co operation of the ganglion cells in any of the functions of the heart He estimates the volume of the beat as much less than formerly assumed The probable quantum in man is 50 to 60 c c The work of the heart is extremely dependent upon external conditions, such as pressure of other organs, etc , and modern science possesses means to determine these variables, at least on the isolated heart, which opens new points of view for the study of medicinal substances —*Cong of Germ Nat and Physicians*

Murmurs of "Mitral Insufficiency"—Dr C F Hoover in the *Cleveland Medical Journal*, states that in his experience there is a difficulty demonstrating a genuine mitral insufficiency The regurgitation of the mitral wave is not visible A curious inconsistency between the causes and occurrence of murmurs is in the fact that we do not always have the murmur when a valvular insufficiency is present The fact that we can demonstrate a dilatation of the right ventricle and see a positive venous pulse, to my mind, shows the presence of a genuine tricuspid regurgitation In spite of this we sometimes have these conditions without any murmur at all over the right side of the heart He believes cardiopulmonary murmurs occur more frequently than many would concede Often murmurs associated with acute dilatation can not be endocardial in origin A young man with an acute infection came to the hospital with an increased precordial dulness, with a very distinct thrill over the apex Percussion shows that the apex is covered by a tongue of lung If this patient would make a forced expiration the heart would become more exposed, as you can show by palpation and percussion and the thrill and murmur entirely disappear This patient has an acute dilatation , nevertheless, when there is no lung intervening between the heart and chest wall, the murmur is not audible Another point is the time of this murmur It occurs during the first portion of the anteroposterior excursion of the heart Dr Stengel suggests the production of a murmur occurring in relative insufficiency in this way, viz , that the contraction of the papillary muscles produces a genuine mitral insufficiency If we accept the interpretation of the heart's impulse and the rôle of the papillary muscles in the cardiac activity, as given by Roy and Adami, we should always hear such a murmur at the end of the anteroposterior excursion of the heart Experience shows that in a very large proportion of the cases of relative insufficiency of the heart the murmur is heard during the first portion of the anteroposterior excursion I believe there is such a thing as a genuine murmur of relative insufficiency due to the dilatation of the mitral ring But my experience in the murmurs of relative insufficiency accompanying acute dilatation leads me to believe that they are very frequently pulmonary and not endocardial in origin

Acute Fatal Pancreatitis —In temperate climates acute pancreatitis is so seldom met with that it is a curio even among pathologists We note in the *Lancet* that a case has been reported lately from Hong Kong, one of the papers of that city containing an account of an inquest held upon the body of the ward master of the Government Civil Hospital, who was found dead in his quarters at the hospital on March 17. Dr. Atkinson, the principal medical officer, in his evidence said that he was summoned in the afternoon to see Mr. Feltham. He found him lying dead on the sofa. At the postmortem examination made on the following day, at which he was present, the cause of death appeared uncertain and the stomach and contents were handed over to the government analyst. The government analyst deposed to examining the contents of the deceased's stomach; it contained nineteen grains of chloral and one third grain of morphia. He had last seen deceased alive at midday on the 17th. Dr. Lowson, who made the post mortem examination, deposed to finding acute inflammation of the stomach and pancreas; in the head of the latter there was a large hemorrhagic extravasation. The condition found could not have been caused by either chloral or morphia and in all probability the deceased could not have taken more than thirty grains of chloral, for the absorbing powers of the stomach must have been considerably impaired. The cause of death was syncope in acute gastritis and pancreatitis possibly accelerated by a medicinal dose of chloral. The presiding magistrate gave his finding in accordance with this evidence.

Tuberculosis Pulmonum Traumatica.—Dr. Schrader of Berlin has advanced the opinion that trauma is a cause not only of acute pneumonia, but also of chronic pulmonary disease. He relates the following case: A man, aged 29 years, previously healthy, and with no family history of phthisis, had a severe fall on the right side of the back, and was unconscious for fifteen minutes. On the same evening he felt ill, and was admitted into the hospital two days after the accident. There was then considerable grazing over the right scapula, and pain was complained of in the chest corresponding to the injured part. The breathing was difficult and the temperature 38.8 degrees C. The breathing sounds were absent, vocal vibration increased, and the percussion note impaired in the region underlying the injury. The diagnosis of pneumonia of the right middle and lower lobes was eventually made. About thirteen days after the accident tubercle bacilli were found in the sputum. The patient's condition remained much the same for some days. There was loss of weight. Eventually improvement took place, so that four months after the accident there were no abnormal physical signs beyond a slightly impaired note over the lower part of the right lung. The author refers to some recorded cases of supposed phthisis following injury. He draws attention to the fact that before traumatism the patient was absolutely well. Whether the pneumonia following the injury is to be looked upon as a contusion pneumonia which favored the invasion of the tubercle bacillus, or whether it was a tuberculous bronchopneumonia from the beginning, it is difficult to decide. The author is inclined to accept the latter interpretation. The temperature chart was characteristic of tuberculosis. Finally, the author summarizes the evidence in favor of this view: 1. The development and course of the tuberculous lesion were carefully observed after the accident; 2, the disease corresponded to the site of the injury; 3, there was no clinical evidence of tuberculous disease in the lung immediately after the injury and no history of previous illness; 4, certain proof of tuberculosis was forthcoming some little time after the accident, the development of which was quite in keeping with that of the ordinary disease.—*British Medical Journal.*

Physiologic Albuminuria.—Herter before the New York Academy of Medicine, recently (*Phila. Med. Jour.*, October 29) emphasized the fact that when certain delicate tests for albumin are employed, there is serious danger of calling substances albumin that have an entirely different origin and significance. He considers the cold nitric and potassium ferrocyanid tests, though not entirely free from this objection, used with the heat test, the most practicable means of recognizing albumin. Where these tests fail to disclose albumin in the urine, which may be found by other reagents, the patient may be assured that he has no albuminuria, and "albuminurias that can not be recognized by the three tests mentioned are only important as material for erroneous practical conclusions, and have no interest for the practitioner."

Chloroform Anesthesia.—Before the recent meeting of the American Laryngologic Association, Hinkel (*N. Y. Med. Jour.*, October 29) reported a case of death immediately following an operation for nasopharyngeal adenoids, chloroform being the anesthetic used. In addition he gives other statistic and pathologic data, showing an abnormally high mortality from such anesthesia "for the removal of lymphoid hypertrophies of the pharynx," and that the "general use of chloroform in the operations for hypertrophied tonsils or nasopharyngeal adenoids is inadmissible."

Massage in Italy.—The *Gazz. degli Osp.* states that massage is in high favor at Giappone, where it is practiced as regularly as the Turks perform their ablutions or the Chinese smoke opium. From the humblest street peddler to the "upper ten," the masseur is summoned when the day's work is over, and in spite of the humidity of the climate, the people of Giappone are exempt from a number of the ills that flesh is heir to, which afflict the dwellers in other towns. The massuers use for superficial manipulations a heavy wooden ball set in another ball which they grasp and knead the tissues by pressing and rotating. A similar device was described in the JOURNAL, Vol. xxvii, page 270.

Pasteur Institutes.—The Berlin correspondent of the London *Lancet* writes that after having absolutely refused for more than ten years now to put any faith in the Pasteur treatment for rabies, the Germans have at last resolved to try it. An appropriation for an experimental station for the treatment according to Pasteur's method is one of the items in the medical budget for the year. It is to be carried on in connection with the Institute for Infectious Diseases, Professor Koch's department. Though it is said to be only experimental, it would seem as though this was scarcely more than a half hearted apology for the refusal to have had anything to do with it before. The treatment itself is far beyond its tentative stage, and each year brings more and more encouraging statistics as to its results in Russia, in Italy, in India and in Egypt. The bacteriologic laboratory which was founded by Pasteur at Constantinople by request of the Sultan, has recently reopened its doors after a long period of idleness due to an alleged indifference and carelessness of the State officials and to lack of funds. The French chargé d' affairs protested, as did the Imperial Society of medicine, and in this way the attention of the Sultan was drawn to the precarious state of an institution in which he had taken the greatest interest. It is probable that the work of the institution will be greatly developed, for orders have been given that the director of the institute shall want for nothing.

Tetanus.—Stintzing has established, on animals, that the tetanus bacillus generates toxins at its entering point, which may pass into the circulation to some extent, but are mostly carried along the nerves in the neighborhood to the subarachnoidal space or spinal cord, from where they produce their effect, starting from the entering point, spreading later into general tetanus, which occurs more rapidly in man, owing probably to the larger size of the channels of transmission. The points particularly attacked by the toxin seem to be the motor ganglion cells in the anterior cornua. He states that [illegible] cases of tetanus have been treated to date with Behring's serum with 35 deaths, but only in 15 cases wa[illegible] as Behring insists, not later than twenty [illegible] mencement of the attack Ten out of these fifteen died Krokiewicz has injected an emulsion of brain matter in salt solution in one case, with prompt recovery Vincenzi has recently demonstrated that the bile of tetanized animals possesses antitoxic properties Escherich reported six new cases of "pseudo tetanus," first described by him at Moscow, characterized by persistent, typic tonic contractions and trismus, which run their course without fever and recover in a few weeks —*Cong of Germ Nat and Physicians*

Concussion vs Intoxication —Dr L D Mason, in the *Brooklyn Medical Journal*, instances one of those deplorable cases to which attention has been frequently called in the Journal, where the police imprison an injured person under a station house diagnosis of drunkenness It was one of those night cases where a bicyclist was struck by a trolley car and suffered from temporary confusion of thought as a result of the injury A roundsman and sergeant of police, in order to save time and bother, took upon themselves the responsibility of not calling in medical advice and locked up the innocent and dazed but sober gentleman for the night In other words, both insult and injustice were added to injury It was not long ago that one of our leading medical societies appointed a committee to investigate concerning the care of persons who were found unconscious on the street or elsewhere by the police, and also more particularly to reform the action of the hospital authorities concerning the reception or refusal to receive all such persons, under certain conditions The conclusions that the special committee finally arrived at after considering the whole matter from a scientific and humane standpoint, was that 'all persons found upon the street in an unconscious or semi conscious condition, or in such condition as not to be able to care for themselves, should receive prompt medical aid, and if necessary be removed to the nearest hospital, and that the mere supposition of intoxication should not interfere with such care or disposal of the persons rendered unconscious or unable to care for themselves The committee showed that not unfrequently persons were seriously injured while intoxicated, and that frequently alcoholic liquors were given to persons after injury or sickness, so that the mere fact that the patient was under alcoholic influence should not exclude the possibility of serious injury or disease The fact was that the injured person was suffering from slight cerebral concussion, resulting in confusion of thought and simulating a mild form of alcoholic intoxication It was simply a case of mistaken diagnosis on the part of the roundsman doctor and the sergeant who acted as consulting surgeon in the case The remedy, a night in the lock-up, was rather severe and totally uncalled for An innocent injured man was punished with false imprisonment in consequence of his injury The system is a wrong one that put the roundsman in the position to differentiate between cerebral concussion from a trolley car accident and a mild form of alcoholic intoxication If this presumptuous policy for the police is to persist, it may be well to suggest that a new question be answered by all applicants for the police force, in accordance with the rules governing the civil service examination "What are the main points in the differential diagnosis between moderate cerebral concussion, and consequent mental disturbance, and the milder forms of alcoholic intoxication?"

Improved Ear Trumpet —Kugel of Bucharest has designed a trumpet on the principle of the ear of the horse, like which it is shaped, instead of the usual large flaring rim, to concentrate the sounds This shape obviates the annoying resonance of the ordinary trumpet, especially as there are a number of holes pierced in the conducting tube Gruber and Politzer endorsed the new trumpet at a recent meeting of the Austrian Society of Otology Bing also suggested that as the sounds collected by the receiver are all transmitted to the ear together, instead of being concentrated as when light is focused, the tube that conveys the sounds from the receiver to the ear should be as large as possible, with no space wasted He therefore suppresses the tube altogether and applies the receiver directly to the entrance of the auditory canal, thus securing a fuller tone, and intends to supplement the instrument with a hollow plate over the mastoid apophysis, to promote osseous conductibility —*Rev Hebd de Laryng*, October 8

A Needle Swallowing Epileptic —Dr Charlton Bastian has reported a case communicated to him by a physician at Guisborough, who stated that eighty six needles and one pin had been removed from the patient, a female inmate of the workhouse there Fourteen others were still to be felt in different parts of the left side of the body Of these needles, seven are very large, ranging from three and one fourth to three and three fourth inches in length The patient is now 55 years of age, and has been subject to fits from early childhood She was admitted into the workhouse in 1886 She sometimes had several fits in one day, and rarely passed a day without having one She recovered quickly from the attacks, and nothing like a post epileptic automatic state had ever been recognized She was described as fairly intelligent, but as having fits of bad temper, in which she refused to do anything except knitting, and would not take her food She had no morbid appetites, and her conduct toward others had been on the whole satisfactory since her admission Needles were first noticed in her body after she had been in the workhouse about twelve months, during which time she had been accustomed to do much sewing, and often had packets of needles in her possession The needles had all been extracted by the doctor, the nurse, or the matron or else by the patient in the presence of one of them With the exception of one needle expelled from the mouth during a fit of coughing, all had been extracted from some part of the left side of the body, principally from the hypochondriac, lumbar, and iliac regions, or from the buttock and the thigh. No abscesses have occurred in connection with the presence or passage of any of the needles, nor had wounds of vessels or great nerves ever been produced The patient was not distinctly hemi anesthetic, though there did seem to be some blunting of sensibility on the left side of the body She had never been seen passing needles into her body, nor would she make any definite statements on the subject She had complained very little of pain from the presence of needles in her body, but of some irritation and tenderness when they were approaching the skin and were about to emerge The needles then caused some slight inflammatory redness, and often some induration of the tissues immediately around them, but no suppuration The sites from which needles had been extracted were indicated by small white scars This strange needle cushion like patient had apparently had nothing to gain by thus torturing herself in so extraordinary a manner

Plumbers Examined as a Health Measure —Under modern systems of house building and disposal of sewage, the dangers to the health of the entire public, arising from defective plumbing, are so great, and at the same time so insidious, that were the State unable to provide for the proper regulation and supervision of the plumber in his work, so as to minimize the danger to the public health from the escape of sewer gas the supreme court of Wisconsin well says that the State would certainly be unable to protect the public life and health in a most important particular This power, it adds, may be exercised by the legislature by demanding practical knowledge of his business on the part of the plumber, or it may be done by requiring inspection and supervision of his work by experts, or by both means combined, and, when such regulations are brought before the courts, the question simply is whether or not they are really appropriate and reasonable measures for the promotion of the public health and safety, and hence are a valid exercise of the police power For example, the court holds, in the case of State vs Benzenberg, Sept 20, 1898, that a law is not unreasonable when it requires that a master or journeyman plumber shall be examined as to his practical knowledge of plumbing, house drainage, and plumbing ventilation, all of which may be acquired in the school of actual experience, while assisting a practical plumber at his work, it not being anticipated that more than this practical knowledge will be required by any examining board But the court, at the same time, holds that chapter 338 of the Laws of Wisconsin for 1897, entitled "An act relative to the licensing of plumbers and the supervision of the business of plumbing," is void, as discriminating between persons under the same circumstances and conditions, the discrimination being in favor of firms and corporations as against a plumber doing business alone, because it would permit several plumbers to form a partnership or corporation, and all engage in practical plumbing, when only one of their number had obtained, or perhaps was able to obtain, a certificate of competency

Not Liable for Use of Impure Vaccine —A municipal corporation, while enforcing a valid ordinance requiring citizens and residents of the city to submit to vaccination, is exercising a governmental power, and, the supreme court of Georgia holds, in the recent case of Wyatt vs the City of Rome, is therefore not liable to a citizen who may sustain damage on account of impure vaccine matter administered to him by one of the officers or agents of such corporation To allow any citizen a right of action on account of injuries, real or supposed, that he may have suffered in the interest of the public good, the court says, would be to paralyze the arm of the municipal government, and either render it incapable of acting for the public weal, or would render such action so dangerous that the possible evil consequences to it, resulting from the multiplicity of suits, might be as great as the smallpox itself Hence, the wisdom of the law in exempting it from liability on such an alleged injury as one resulting from the negligent administration of impure vaccine matter by the officers or agents of a city while enforcing a valid ordinance The right to prescribe regulations looking to the preservation of the public health, further says the court, is one of those sovereign powers that belong to the State This power can be delegated by the State to any of its subdivisions of government, such as a municipality or a county, and in the use of it by such subdivisions they are in the exercise of a function purely governmental When a municipality exercises a governmental power conferred upon it by the State, it is just as if the State itself were in the exercise of the function thus conferred And it is upon the idea, as old as the English law—"the king can do no wrong"—that the sovereignty of a State protects it against suits by its subjects, no one having a right to hold it liable for any of its officers or agents, unless such right is expressly granted by the State itself Among the precedents which have been established by courts of last resort that are apparently exceptions to this general rule, the supreme court of Georgia says it has been able to find none that would hold a city liable for any injury that may be sustained as the result of enforcing measures legally enacted for the promotion and preservation of the public health

Professional Secrecy —The *Klin therap Woch* of October 9 describes a case in which a physician was consulted in regard to the health of a daughter whom he found pregnant, but considering himself bound to professional secrecy, he diagnosed the case to the parents as anemia The parents later ascribed the paternity to him in spite of the girl's declarations to the contrary, as the only possible explanation of his reticence

Disreputable, but not Larceny —That Francis M Steward was convicted of larceny, in the criminal court of Cook County, the supreme court of Illinois holds, in the reversed case of Steward vs People, was error According to the statement of the case made by the supreme court and the evidence for the State, the defendant in the criminal court was a doctor, in Chicago, Herman Klepstein was a shipper of a carload of live stock that came to the city, and Timothy Englehard was a person in the habit of bringing patients to the defendant, and receiving some compensation for doing so Klepstein fell in with Englehard, who after a little time, asked him what was the matter with him, saying that he looked sick When they got down town, Englehard said that he had to go to the defendant's office to get some medicine for his baby He persuaded Klepstein to go into the office, and spoke to the defendant about medicine for his baby, and then introduced Klepstein and said that he looked sick, that his eyes looked bad After the introduction the defendant told Klepstein that he looked sick, but he replied that he was not sick Then the defendant said that he was a professor, and could tell when people were sick, but could not tell what was the matter until he made an examination He and Englehard told Klepstein to pull off his overcoat, etc , and one or both assisted him more or less After the examination which followed, the defendant told Klepstein that he had heart disease, brain trouble and piles, demanded $150 for the treatment said to have already begun, finally took a draft for $50 and a note for the balance, wrote out a prescription and all went to a drug store, where the prescription was filled, Klepstein paying $3 75 for the package of medicine handed to him, and telling a clerk about the arrangement for treatment and that he was afraid the Doctor would not cure him The note Klepstein got back later, and he admitted that at the time of the examination he told the defendant that he would deposit $200 if he would make him as strong and healthy as he was when he was 17 years old, but that the defendant said that he could not do that A thorough examination made by another physician, ten days later than the one just mentioned, developed nothing of any consequence in the way of disease, but seemed to show that, on the whole, the man was in good condition and health Now, while under these circumstances, the defendant was convicted of the larceny of the draft for $50 from Klepstein, the supreme court holds that larceny was not committed, no matter what else it might be, because the crime of larceny always includes the taking and conversion of property without consent of the owner It says that the methods employed were disreputable, and that Klepstein was over persuaded and induced to do what he would not otherwise have done, but that there was no larceny, because Klepstein meant to part with the draft absolutely and no force or duress was used upon him

Commendatory Report —The report by Surgeon General Van Reypen of the Navy Department, on the work of the naval surgeons, is admirable It shows the very best of organization, and the most complete and thorough efficiency in this department Everything was provided for, everything was on time, and never in the history of naval warfare has such care or success been in evidence The mortality in the hospital ship, itself a new feature, showed no greater percentage than in well conducted hospitals on shore The sudden call for hospital accommodations for hundreds of Spanish prisoners was instantly and fully met An outbreak of yellow fever was localized and stamped out A daughter of the Secretary of the Navy and other trained nurses volunteered for service and did admirable work Indeed, the report is one to make us proud that there was one such efficient department in the management of the war —*The Independent*

Unavailing Heroism — A most notable Alpine accident and one that was marked by as magnificent a display of heroism as can well be described, is that by which Professor Nasse of Berlin lost his life Dr Nasse, well known as the assistant to

Professor von Bergmann, and Dr Borchardt, with two guides, the four roped together, were crossing the Piz Balne over a snow bridge which was considered quite safe by the guides The bridge gave way and the leading guide and Professor Nasse fell into the crevasse Professor Nasse had the rope around his chest and hung in midair for half an hour To relieve the intolerable strain the leading guide cut the rope between himself and Professor Nasse and disappeared into the depths The other guide and Dr Borchardt were then able to pull Professor Nasse up, but he was dead It is cheering to know that the guide who so willingly offered his own life was not killed, but was found unhurt by a rescue party But as a heroic action it is beyond all praise Men have risked their lives on the battle field in many very noble ways, but there they have the excitement and the lust of fighting to keep them up Here, however, there was nothing of the kind, almost certain and horrible death stared him in the face Two actions we can recall which are in some way comparable—the one which happened in England when the driver and fireman of the Great Western express stuck to their engine, so as to stop the train, although being boiled alive, and the other the well known instance of the steersman of the burning steamer on Lake Erie who stood at the wheel while slowly scorching, so that he might steer the ship to land The news of Professor Nasse's terrible death was received with the utmost sympathy among medical and lay circles in Berlin, where he had a prominent position as head of the out patient department of the Royal Surgical Clinic He had made a good many contributions to modern surgery, and came especially into notice during the late Græco Turkish war as a leader of the German Red Cross Mission to Constantinople Professor Nasse resided several months in the Turkish metropolis as chief surgeon to the great military hospital of that city It was a sad coincidence that on the day of his death the *Official Gazette* published the news of his being decorated by the Sultan in recognition of the services he had rendered to the Turkish wounded soldiers —London *Lancet*

Death of a Soldier's Nurse —Miss R H Walworth, a volunteer at the camp at Montauk Point, lost her life from typhoid contracted at the camp hospital She and her mother, Ellen H Walworth, were among the heroic volunteer corps of nurses that early went out from New York City to help the returning sick soldiers The Walworth family name is one that is historic in the annals of that State, and many and sincere have been the tributes paid to the departed patriotic lady

The London Hospital —This institution, said to be the largest hospital in the world, except that at Vienna, is constantly engaged upon improvements A recent change has been to make a charge of three pence for medicines or for surgical dressings in the out patient department, it being found that those who can afford this nominal charge give it willingly, the sum being remitted in the case of those really unable to pay it It is thought that the adoption of this plan will benefit the hospital to the extent of some $5,000 a year A feature of the London Hospital is the provision of separate wards for patients of the Jewish persuasion, for whom food is specially prepared in a Jewish kitchen Four new operating theaters are being constructed, which are to be models of all that modern science can devise, an Australian gentleman having given $65,000 for this purpose They will be fitted with an apparatus which will force ice cooled air into the theaters during the hot weather, and warm filtered air during cold, the pressure being such that under all circumstances there will be a current of air passing from the interior outward Besides being the largest hospital in the world, after that in Vienna, the London Hospital will, when the present additions and alterations are effected, be the most advanced scientifically —*American Practitioner and News*, October 1

Dermatologic Statistics —In "Impressions and Conclusions Based upon a Study of 5000 Cases of Skin Disease Treated During the Year," Allen (*Med Record*, October 22) says that "the diseases giving over 1 per cent of the total number and showing the largest number of cases are, in the order of greatest frequency, as follows Eczema (including all varieties), 985, impetigo contagiosa, 444, pediculosis capillitii, 365, vaccinia, 531, dermatitis 'pediculosa,' 210, urticaria, 170, scabies, 164, dermatitis (traumatica), 142, acne, 141, favus, 139, intertrigo and intertrigal eczema, 127, tinea carcinata, 124, tinea tonsurans, 92, tinea furuncle, 97, syphiloderma, 84, dermatitis calorica (including burns), 75, erysipelas, 72, abscess, 70, verruca, 67, pediculosis corporis, 59, pruritus, 58, psoriasis, 58, erythema multiforme, 54

Osteopathy and the "Medical Age"—In the *Medical Age* of October 25 the following communication from the publisher, Wm A Warren concerning the libel suit of William Smith, osteopathist, appeared

"Dr William Smith, osteopathist, has a grievance against the *Medical Age*, and demands $25,000 damages The ground of his plaint is an editorial, reflecting discredit on Dr Smith, on the *Journal of Osteopathy*, and on osteopaths in in general The subject is set forth editorially in the *Medical Age* of Sept 26, 1898, and a reprint of this editorial will be sent on application I need hardly assure any one familiar with the past record of the *Age*, that William Smith, M D, D O, has a large contract on his hands His quest for damages is likely to prove futile, and his armor will need patching if it is to withstand the hard legal knocks that will be showered and battered upon it before he touches one dollar of the *Age*'s money! Pray do not fancy, however, that William Smith and osteopathy are to be lightly dismissed with the contempt that they merit There is no use in blinking the fact that the lack of efficient organization among reputable medical men has permitted the whole brood of quacks and charlatans to flourish apace By the strangest irony of fate, Osteopathy, in some respects the most grotesque of medical aberrations, has well illustrated Lecky's dictum that a small but cohesive and determined minority can exert a political influence wholly disproportioned to its real weight and numbers In Kentucky, thanks to the resolute leadership of a handful of physicians, ably guided by Dr Mathews, the osteopaths have been driven from the State Not so, however, in Missouri or—I blush to say it—in Michigan, Vermont, North Dakota, South Dakota, Illinois, Colorado and North Carolina (*American Medico Surgical Bulletin*) In these more lax and indulgent communities Osteopathy boasts its numerous followers, its "schools of instruction," its periodicals of propaganda, its political influence in legislation its shameful immunity from the penalties by which society properly seeks to rid itself of quackish parasites Emboldened by its success, Osteopathy now enters the courts and offers battle to a medical journal which disputes its respectability The challenge is accepted In the interest of science, in defiance of a quackery that continues a deep disgrace to an enlightened age and a stain on the communities which give it shelter, the *Age* proposes to maintain its position and to continue its denunciations of the ignorant pretenders who fatten on the sufferings of the credulous and confiding Having put my hand to the plow in this uncompromising fight with quackery, I beg leave to assure you that there will be no turning back I need not point out the bearings this contest must have on the interests of legitimate medicine, and I earnestly hope that the *Age* may count on the moral support and commendation of the entire profession"

Premium for a Life Saving Invention —The Belgian Government having decided to offer a premium of $10,000 to the inventor of a paste for matches which will be free from phosphorus, and which will ignite on cloth or on any other surface, a ministerial decree has been issued determining the conditions The competition will be international in character and will remain open until Jan 1, 1899

Telegraphy without Wires —The compiler of the Consular Reports for September has received from Liége, under date of July 19, a letter from a professor of a San Francisco school of engineering, who has been investigating inventions of wireless telegraphy The professor refers to the system of Dr Della Riccia, connected with the Montefiore Institute of Electricity at Liège Dr Riccia has made improvements on apparatus already in use, simplifying it and increasing its power, and claims that he can confine the oscillations of the transmitter to any special point, to the exclusion of all others In case of communication between war vessels or forts, the message could be transmitted to one alone, in case of fog at sea, the oscillations would not be limited Dr Riccia, it is said, can make the presence of a vessel known to another at a distance of thirty miles, and telegraph real messages seven miles

Explosion of Liquefied Air—At the Polytechnic Institute of Brooklyn recently a violent explosion resulted from an experiment made by Prof Irving Fay, with the newly discovered liquid air It occurred after the class in chemistry had been dismissed, so Professor Fay alone was injured, and it was for a time thought he might lose his eyesight, but this danger has happily been escaped The agents that were in use, at the time of the accident, were red phosphorus and a waning supply of liquid air, that is believed to have become nearly pure oxygen by the loss of its nitrogen The exact reaction that took place is not fully understood, but it is probable that the volume of liquid air in the possession of the Professor had been standing exposed to the atmosphere for too long a time to have been a safe exponent of the properties of the new agent The force of the explosion, like that of dynamite, seems to have been exerted in a downward direction

No Copper in Green Oysters—Green oysters have become a subject of fresh discussion The United States Fish Commission has given renewed attention to the prevalence of green oysters in the Chesapeake region and elsewhere It is the general opinion among oyster consumers that green oysters are made so by copper, with which they have been contaminated, and that they are therefore unwholesome But it has been repeatedly demonstrated and announced by the commission that the green oysters owe their color to vegetable matter, which serves as food, and that no impairment of the food value of the oyster results from this condition The circulation by the press of a report that copper in considerable quantities had been discovered in English oysters induced the commission to make a re examination of the subject, and this has confirmed previous tests There is no copper in the green oysters of the United States —*Sportsman's Magazine*, October

Gleanings—Expulsion of a mole containing a four months' fetus—*Brazil Méd*, September 1 ——Death from anti diphtheria serum administered for long continued bronchial asthma in a child of 10 years, with slightly arythmic action —*Semaine Méd* September 28——Phocas relates two cases of post operative paralysis after abdominal hysterectomy —*Journ de Méd de Paris*, October 9 ——Intraperitoneal injections of oxygen found effective in ascites complicating either tuberculous peritonitis or cirrhosis —*Klin Therap Woch*, October 16 ——E Fischer keeps a cloth constantly moistened with alcohol over erysipelatous patches and claims that they heal rapidly under it —*St Pet Med Woch*, No 38 ——Menelik, King of Abyssinia, has become very much interested in the first hospital established in his capital (erected by the Russian mission), insists upon being summoned to every important operation, and is delighted when allowed to serve as an assistant——Cyanosis noted as a reliable symptom in the early diagnosis of acute general miliary tuberculosis ——In experiments on eighteen rabbits and guinea pigs inoculated with various severe infections, it was found that the germ never passed into the milk as long as the teats were intact —*Gazz d Osp*, October 9

Societies

The following recent meetings are noted

Alabama —Tri state Medical Association, Birmingham, October 27

Connecticut —New Haven County Medical Society New Haven October 27

Illinois —Chicago Medical Society, November 2

Indiana —Henry County Medical Society, New Castle, October 21, Vanderburgh Medical Society, Evansville, October 18

Iowa —Polk County Medical Society, Des Moines, November 1

Kentucky —Southern Kentucky Medical Association, Russellville, November 2 and 3, Southwestern Kentucky Medical Association, Mayfield, October 25

Maryland —Frederick County Medical Society, Frederick, organized October 30

Michigan —Grand Rapids Medical and Surgical Society, October 24, Manistee County Medical Society, Manistee October 26, Wayne County Medical Society, Detroit, October 20

Minnesota —Minnesota Academy of Medicine, Minneapolis, November 2

Missouri —Central District Medical Society of Missouri, Sedalia, November 3, Medical Society of City Hospital Alumni, St Louis, November 3, St Joseph Medical Society, October 25, St Louis Medical Society of Missouri, November 5

New York —Binghamton Academy of Medicine, October 25, Medical Society of the County of Queens, Jamaica, L I, October 25, State Medical Association, New York City, October 18, 19 and 20, Suffolk County Medical Society, Patchogue, October 28, Syracuse Academy of Medicine, October 25 Union Medical Society, Hoosick Falls, October 26

Ohio —Mansfield Academy of Medicine, October 25, Perry County Medical Society, New Livingston, October 20, Tuscarawas County Medical Society, Canal Dover, October 25

Pennsylvania —Bucks County Medical Society, Doylestown, November 2, Pathological Society of Philadelphia, October 27

Rhode Island —Medico Legal Society, Providence, October 27

Annual Report of Illinois State Board of Health—This 19 20th annual report contains a valuable summary of the laws and regulations governing the practice of medicine in the States and Territories of the Union including Hawaii The following is a synopsis

ALABAMA —Certificate of successful examination by Board of Censors of the Medical Association of the State or the *Boards* of Censors of the several county medical societies in affiliation Diplomas confer no right to practice Senior Censor, W H Sanders, M D, Mobile

ALASKA —No law

ARIZONA —Certificate of successful examination by Board of Territorial Medical Examiners, after presentation of diploma from a properly and lawfully organized medical college Secretary of Board, C D Belden, M D, Phenix

ARKANSAS —Practically no law

CALIFORNIA —Certificate issued on presentation of diploma from a medical college in good standing issued by one of the State Board of Examiners, regular, homeopathic or eclectic Secretary representing State Medical Society, G G Wadsworth, M D, San Francisco

COLORADO —Certificate based on diploma from a recognized medical college or successful examination by State Board of Medical Examiners Secretary of Board, T A Hughes, M D, Denver

CONNECTICUT —Certificate of successful examination by committee appointed by State Board of Health Regular, homeopathic or eclectic Diplomas confer no right to practice Secretary representing State Medical Society, G A Lindsley, M D, New Haven

DELAWARE.—Certificates conferred only by Medical Council after presentation of diploma from a legally incorporated medical college and successful examination by Board of Medical Examiners, either regular, homeopathic or eclectic Diplomas confer no right to practice Secretary of Medical Council, I S Vallendigham, Middletown

DISTRICT OF COLUMBIA —License by Board of Medical Supervisors after successful examination and diploma from a legally authorized medical college Secretary of Board, W G Woodward, M D, Washington

FLORIDA —Certificate of successful examination by District Board of Medical Examiners Diplomas confer no right to practice Secretaries of District Boards (from Polk's Medical Directory, 1898), 1st, C B McKinnon, M D, Pensacola, 2d, G W Lamar, M D, Quincy, 3d, W R Chalkee, M D, Lake City, 4th, R H Dean, M D, Jacksonville, 5th, G E Welch, M D, Palatka, 6th, L W Weedon, M D, Tampa, 7th, R L Harris, M D, Orlando

Georgia —License issued after satisfactory examination by the Board representing the regular, homeopathic or eclectic schools of medicine Secretary representing regular school, E R Anthony, M D, Griffin

Hawaii —Under the laws of the Republic of Hawaii certificates are issued to graduates from recognized colleges after a satisfactory examination by the Board of Health

Idaho —Certificate from State Board of Medical Examiners based on diploma and satisfactory examination by the Board Secretary, C L Sweet, M D, Boise

Illinois (law now in force) —Certificate by the State Board of Health based on diploma from a recognized medical college or a satisfactory examination by the Board (Proposed law) —License by Board of Medical Examiners based upon diploma of a recognized medical college and a satisfactory examination by the Board License to be renewed annually, at the discretion of the Board Secretary, J A Egan, M D, Springfield

Indiana —Certificate based upon a diploma from a recognized medical college or after a satisfactory examination by the State Board of Medical Examiners Secretary, W F Curryer, M D, Indianapolis

Indian Territory —Cherokee Nation An examination by Board of Medical Examiners Secretary, I W McClendon, M D, Colgate Choctaw Nation the same, except an annual fee of $10 for a permit

Iowa (In force Jan 1, 1899) —Certificate from State Board of Medical Examiners based upon a diploma from a recognized medical college and satisfactory examination by the Board Secretary, J F Kennedy, M D, Des Moines

Kansas —Registry of diploma from some "respectable medical college," or certificate of qualification from some state or county medical society Secretary of State Board, H Z Gill, M D, Pittsburg

Kentucky —Certificate from State Board of Health based upon diploma from "some reputable and legally chartered medical college endorsed as such by the Board" Secretary, J N McCormack, M D, Bowling Green,

Louisiana —Certificate based upon diploma from a medical college in good standing and a satisfactory examination by the State Board of Medical Examiners Secretary, representing State Medical Society, H S Cocram, M D

Maine —Certificate of successful examination by the State Board of Registration Secretary, A K P Meserve, M D, Portland

Maryland —A certificate based upon a satisfactory examination by the State Board of Medical Examiners Secretary, representing Medical and Chirurgical Society of Maryland, J McP Scott, Hagerstown

Massachusetts —License after a satisfactory examination by the State Board of Registration in Medicine Secretary of Board, Edwin C Harvey, Boston

Michigan —Registration with the county clerk of a diploma from any legally authorized medical college

Minnesota (In force Jan 1, 1899) —License issued by the State Board of Medical Examiners after a satisfactory examination and presentation of evidence of having attended four full courses, at a recognized medical college, of at least twenty-six weeks each, no two courses being in the same year Secretary, J B Brimhall, M D, St Paul

Missouri —Similar to Illinois Secretary of State Board of Health, Paul Paquin, M D, St Louis

Montana.—A certificate based upon a diploma from a recognized medical college or after a satisfactory examination by the State Board of Medical Examiners, and evidence of having attended four courses of lectures of at least six months each Secretary, Henry Chapple, M D, Billings

Nebraska —A certificate issued by the State Board of Health upon a diploma from a "legally chartered medical school or college in good standing" Holders of diplomas must have attended four courses of lectures in four separate years Secretary of Board, B F Crummer, M D, Omaha

Nevada —A record of diploma filed with county recorder from "some regularly chartered medical school"

New Hampshire —License by State Board of Medical Examiners after a satisfactory examination by the Board, or based upon license from another State having an equal standard of qualifications Secretary representing New Hampshire Medical Society, J T Greely, M D, Nashua

New Jersey —A license after successful examination by the State Board of Medical Examiners, diploma from a recognized medical college Candidates must have studied medicine four years, including three courses of lectures in different years, and present evidence of preliminary education Secretary of the Board, E L B Godfrey, Camden

New Mexico — Certificate based upon a diploma from a medical college in good standing, or a satisfactory examination by the Territorial Board of Health Secretary, J M Cunningham, M D, Las Vegas

New York —License issued by State Board of Examiners, after a satisfactory examination and evidence of having studied medicine not less than four years in a medical college having a satisfactory standard Secretary representing New York State Medical Society, Melvil Dewy, M D, Albany

North Carolina —A license issued upon successful examination by the State Board of Medical Examiners Diploma confers no right to practice Secretary, H B Weaver, M D, Asheville

North Dakota — Similar to North Carolina Secretary, H M Wheeler, M D, Grand Forks

Ohio —(In force Jan 1, 1899) —Certificate issued by a State Board of Registration and Examination, based upon diploma from a college requiring four years of study and in good standing with the Board Secretary of the Board, Frank Winders, M D Columbus

Oklahoma —A license based upon a diploma of a "medical college," or after a satisfactory examination by the Board of Examiners Secretary, L Haynes Buxton, M D

Oregon —A license issued by the State Board of Medical Examiners after a satisfactory examination Secretary, B E Miller, M D, Portland

Pennsylvania —A license granted by the Medical Council after a satisfactory examination and a diploma from a recognized medical college Secretary, Hon J W Latta, Philadelphia

Porto Rico – Graduates from a reputable medical college will probably be allowed to practice

Rhode Island —A certificate based upon a diploma from a recognized medical college having a four year course, or after a satisfactory examination by the State Board of Health, Secretary, G T Swarts, M D, Providence

South Carolina —A certificate issued by the State Board of Medical Examiners to holders of diplomas after a successful examination Secretary, S C Baker, M D, Sumter

South Dakota —A license by the State Board of Health based upon a diploma from a recognized medical college Secretary, F H Files, Sioux Falls

Tennessee —A license after a satisfactory examination by the State Board of Medical Examiners Secretary, T J Happel, Trenton

Texas —A license after examination by the District Board of Medical Examiners

Utah —A certificate issued to holders of diplomas after an examination by the State Board of Medical Examiners Secretary, B Stringham, M D , Salt Lake City

Vermont —A license based upon a diploma from a reputable medical college, or after examination by the Board of Censors Secretary, representing Vermont Medical Society, H H Lee, M D , Wells River

Virginia —A license after an examination by the State Board of Medical Examiners Secretary, R S Martin, Stuart

Washington —Similar to Virginia Secretary, J H Hoxley, M D , Spangle

West Virginia —A license after an examination by the State Board of Health Secretary, A R Barbee, M D , Mount Pleasant

Wisconsin —A license based upon a diploma from a recognized medical college, or after a satisfactory examination by the Board of Medical Examiners Secretary, H M Ludwig, M D , Richland Center

Wyoming —The record of diploma with the Registrar of Deeds

Philadelphia

Prevention of Diphtheria —For several weeks there has been a gradual increase in the number of cases of diphtheria among children, especially those attending the public schools of the city and it became so general that it at once attracted the attention of the Board of Health, which body is making heroic efforts to reduce the number of cases, on the principle that "an ounce of prevention is worth a pound of cure,' and orders have been issued giving definite information to janitors of the different buildings used for school purposes describing in detail the proper means of using disinfectants about the rooms, halls and stairways Dr Woodward of the Board of Health has presented a resolution that the diphtheria placard should not be removed from any house in which there has been a case of diphtheria and that there shall be no disinfection of bedding *or clothing until bacteriologic examination* made in the laboratory of the Board of Health shall have demonstrated that the bacilli of diphtheria are absent from the throat of the patient,

Red Cross Society —The building formerly owned by the Pennsylvania Epileptic Hospital has been turned over to the Red Cross Society of Pennsylvania for the establishment of a new hospital The building has been furnished by the equipage formerly used at Camp Meade, but owing to the work having been finished at that place the material was brought here A staff of five physicians will look after patients, and is composed of Drs Richard Clemon, Samuel Ashhurst, Clarence B Franklin, Samuel Gerhardt and I W O'Neil Twenty nurses will be in attendance The capacity of the hospital is sixty beds placed in two wards, and it is stated that the Red Cross Society takes great pride in its new venture and is leaving no stone unturned to make it a first class hospital A train was dispatched during the week to Camp Meade and sixty soldiers taken to the new hospital The institution is in need of supplies such as linen, tables, chairs, china, tinware, etc , which it is hoped will soon be replaced by new material

Hospital Trains —The War Department has requested the National Relief Association to send hospital trains to Camp Meade and bring ninety sick soldiers to Philadelphia hospitals October 30, twenty-four patients were brought here and sent to the Presbyterian and Jefferson Hospitals October 31 another train was dispatched under the charge of a staff composed of ten physicians from the University, Presbyterian and German Hospitals, together with a corps of twelve nurses November 1, at the request of the War Department, the National Relief Association dispatched another train to Camp Meade returning with fifty six *patients, many of whom* are suffering from typhoid fever Of this number twenty were sent to the St Joseph Hospital, twenty to the German Hospital, and sixteen to the Jewish Hospital On November 4, it was proposed to bring about 150 soldiers to be assigned to the different hospitals

Mortality Statistics —For the week ending November 12, there was a total of 394 deaths, an increase of 46 over last week and of 61 over the corresponding period of last year Of the total number of deaths, 82 occurred in children under the age of five years

Knock out Drops Given Soldiers —Two soldiers, members of the Fourteenth Pennsylvania Volunteers, while in attendance upon the jubilee festivities here last week became acquainted with a man who gave them liquor from a bottle he took from his pocket Shortly afterward they were found in an unconscious condition and were taken to the hospital The death of one man had recently occurred under similar circumstances An autopsy was made by the Coroner s physician, but the actual cause of death has not been divulged, though it is reported that the patient died of poison Detectives are at work upon all the cases and it is thought traces have been found which may lead to the apprehension of the guilty persons While chloral is the usual ingredient of knock out drops, it is not yet known whether or not it is responsible for the serious illness of these two soldiers and the death of the one man

Camden —Several members of the Water Committee of the city of Camden recently discussed the question of better water for that city From the fact that the contractor had cut off the supply from the artesian wells and had started to draw the city's supply of water from the Delaware River, it is feared that an epidemic of typhoid fever will sweep over the town It is stated that the reports from the Board of Health go to show that since the artesian system had been in vogue typhoid fever had diminished from 40 to 60 per cent , which decrease was thought to be due to the purer water The trouble came about over the fact that the city demanded of the contractor that a test be made regarding the amount of water supplied, but this was refused and the supply of water cut off In this connection it may be stated that the trial of Peter E *Smith of Philadelphia, who is charged* by Walter N Stevenson a member of the City Council, with an attempt to bribe the latter, has been before the court this week Strange to say Smith is also a member of the City Council Stevenson stated under oath that Smith offered him $5000 for his vote in favor of the Schuylkill Valley Water Bill, which attracted so much attention during the epidemic of typhoid fever here last spring On the other hand, the defendant has introduced a plea of alibi, and witnesses have sworn that it was impossible for him to have been present in Stevenson's office at the time the latter states the bribe was offered Charges and counter charges are being made by both parties, and the case elicits no little public interest But the fact is painfully evident, at any rate, that the people are still using unfiltered Schuylkill water, as proved each week by the number of deaths from typhoid fever

University of Pennsylvania —Owing to the death of Dr William Pepper, president of the alumni of the University of Pennsylvania, the Board of Managers of the General Memorial Society recently elected Effingham P Norris, '71, to fill the vacancy A memorial gate will be erected on the University campus, by the class of 1872, to cost $3000 The General Alumni have undertaken to raise the balance of $200 solicited by the Houston Club Memorial Committee for the erection of an archway in the new dormitory system in memory of the students who were killed during the late Spanish war

Gift of $1,000,000 —Mrs Imogene Bennett Wellens, daughter of Joseph M Bennett, has begun the contest against the probate of the will of the deceased It will be remembered that Joseph M Bennett recently gave to the University of Pennsylvania certain pieces of property adjacent to the University grounds, upon which were to be erected certain buildings to 'further aid and encourage the said trustees in carrying out more practically and thoroughly the co education of women and girls " Besides this bequest various other ones were made to charitable institutions In the will Mrs Wellens was entirely ignored

PRECAUTIONS AGAINST THE PLAGUE —Owing to the receipt of a message by the Marine Hospital Service and by public reports of the death of three persons from bubonic plague in Vienna, the quarantine officers of this city have received instructions from Washington to use stringent measures in regard to preventing the introduction of the disease by steerage passengers who have been through the infected district of Europe

REPORT OF NATIONAL RELIEF COMMISSION —Mr George C Thomas, treasurer of the National Relief Commission, makes known the following contributions Cash previously received, $78,173 47, items, $85, value of supplies received to date, $40,345, grand total, cash and supplies, $118,603 47

NATIONAL RELIEF ASSOCIATION —At a recent meeting of the executive committee of the National Relief Association, two gentlemen were appointed to go to Washington to confer with the Secretary of War relative to the future work of the Commission The committee is composed of President Converse and Secretary French It will be remembered that the National Relief Association has been doing noble work in caring for the sick soldiers in the army camps and in bringing them to this city to be placed in well equipped hospitals It now seems that the Commission is being overwhelmed and it is stated that much of the work now done by them in fact should be done by the government It is also reported that the Commission has been bearing part of the government's expense in this matter and the two members have been dispatched to Washington to look after the matter

HONOR TO NAME OF FORMER PHILADELPHIAN —The President has given direction to the proper authorities in charge designating that the general field hospital at Camp Lexington, Ky, be named John Blair Gibbs, U S A, General Hospital, in honor of that much beloved officer who was killed in the second skirmish of the American troops at Guantanamo on the night of June 12 Dr Gibbs formerly lived in Philadelphia, graduating at the University of Pennsylvania, but in recent years lived in New York, where he held prominent positions on the staff of the Roosevelt Hospital and a prominent medical college

Washington

HEALTH OF THE DISTRICT —The report of Health Officer Woodward for the week ended October 29 gives the total number of deaths as 120—65 white and 55 colored The principal causes were Apoplexy, 8, consumption, 12, diphtheria, 7, heart disease, 13, diseases of kidneys, 8, malarial fever, 5, pneumonia, 10, scarlet fever, 1, typhoid fever, 6 The total number of births was 105—53 white and 52 colored At the close of the week there were 139 cases of diphtheria and 106 cases of scarlet fever under treatment

HEALTH REGULATION ENFORCED —The father of a child convalescing with scarlet fever was fined in the police court for violating the law for the prevention of the spreading of contagious diseases One of the medical inspectors of the health department found the convalescing child on the street before the official quarantine had been removed, the father was held responsible and was fined $15

PHYSICIANS APPOINTED —On the recommendation of Health Officer Woodward, John H Stoutenburgh has been appointed by the Commissioners to the position of Assistant Medical Sanitary Inspector, with a compensation of $2 50 *per diem* J F Reppeti will act as physician to the poor during the assignment of Dr Stoutenburgh L E LeFetra has been appointed medical school inspector in New York City Dr LeFetra passed first in the competitive examination for the position, 276 applicants being examined

SURGEON SUED —A patient entered suit recently against Dr George C Burton to recover alleged damages in the sum of $25,000 The plaintiff claims to have suffered from a shortening of a limb after a fracture, and sets up the stereotyped charge of "unskillful doctor"

PUBLIC HEALTH COMMITTEE —At the meeting of the Committee on Public Health of the Washington Board of Trade, recently held, it was decided to recommend to Congress the filtration of the city water supply, the extension of the sewer system, and the reclamation of the Anacostia flats The latter recommendation was considered particularly important, as a large number of the paludal diseases prevalent in Washington are traced directly as originating from these flats The report of the Commandant of the U S Navy Yard, the surgeon in charge of the Government Hospital for the Insane, and the Washington Asylum Hospital, point out the disease spreading influence of this cess pool The Superintendent of Public Schools for the eastern section of the city, submitted a tabulated statement showing the number of cases of malarial diseases among pupils who reside in this locality

THE FORTNIGHTLY CLUB —The 79th meeting of the Fortnightly Club was held at the residence of Dr A F A King, on the 28th ult

---

Work of Fiction —Dr Weir Mitchell's novel, "The Adventures of Francois," has been issued simultaneously in New York, London, Canada and Australia In New York the twenty fifth thousand was on the press before publication

An Effect of Diet —Mrs Dix "Don't you think your husband is rather headstrong for an invalid?" Mrs Hix "Yes, and the doctor's to blame for it, too" Mrs Dix "Indeed! And why, pray?" Mrs Hix "He refuses to allow him to take any nourishment but goat's milk"—Chicago *News* But suppose *the patient should become bull headed in his obstinacy?*

CHANGE OF ADDRESS

Allen, C J, from East Barnard, Vt, to 6 Winthrop St Winchester Mass
Christonson A from Washburn to Wausau, Wis
Crook L F from Hico to Adell, Tex
Ellis E J C, from Clayton to Benzonia, Mich
Hayes, T D from Chicago Ill to Arbroth, La
Hudson A S, from 271 to 230 Tremont St Boston, Mass
Ketcham, C L from Cincinnati O to New Alsace, Ind
Matteson D E from Lima O, to Marion, Ind
Rollins, F H, from West Salem Wis to St Charles Minn
Terrill, L B, from Anderson Ind, to Continental Bldg, Memphis Tenn
Yates, H W, from St *Luke's Hospt to 1411 Fort St W, Detroit, Mich*

LETTERS RECEIVED

Allen, C L Washington D C Ashmead, A S New York N Y

Broga W W Springfield Mass Browning B Ray Littleton N C Bernd, Henry & Co St Louis Mo Boston Gore & Web Mfg Co, Chelsea, Mass Bickey W A, Toledo O

Cheney J V, Chicago Ill Carnes U M Cleveland O Cokenower, J W Des Moines Ia *Curtis A M, Washington, D C Clements, Jos*, Kansas City, Mo Coe, H W, Portland Oregon Chadwick H J, Grand Rapids Mich Cleaves, M A, New York N Y Coleman W Troy O, Chenoweth, W J, Decatur, Ill Crosby Fresian Fur Co The Rochester N Y Curl, J L, Osa Mo Clements J, Kansas City Mo

David, E L, (2) Louisville, Ky Davison, F B Fleetville, Pa, Daniel, J B Atlanta Ga Dixon J L Springfield, Mass

Fischer Chemical Importing Co New York, N Y, Fischer Louis (3), New York, N Y Fuchs, W C (2) Chicago, Ill Frazer, W A Lyle, Minn

Gardner, I K, New Hampton Ia Gould, Geo M, Philadelahia Pa Ganett, G H Miller Grove Tex

Hummel Adv Agency A L, New York N Y Holmes C H, Cincinnati, O Harper & Brothers New York N Y Hamlin J E, Davenport, Ia, Hicks Newspaper Adv Agency New York, N Y

Jenks, H D, Detroit, Mich, Jones D J, Lisbon, O Jones, W T, Georgetown Tex

Kress & Owen Co New York N Y Kempson, J F New York N Y

Lehn & Fink (2) New York, N Y Lounsberry, L, Binghampton N Y Leuschner R Mt Clemens Mich

Matteson J B Brooklyn, N Y Mellin's Food Co, Boston, Mass, Merrell Chemical Co W S (2), Cincinnati O Minor J C Hot Springs, Ark Merrick M B, Passaic N J Musser, J H, Philadelphia, Pa Morse Adv Agency, L D, New York N Y *Moure E J, Bordeaux*, France Mulford Co, H K Philadelphia, Pa Morrisson Plummer & Company, Chicago Ill Moore Geo, Lynn Mass, McClanahan H W Omaha, Neb McCall H B Lenexa Kas McCurry, J H, Credit, Ark McKesson & Robbins (3) New York, N Y

Nind J Newton Chicago Ill

O'Connor W, Woodbine, Ia

Patrick H T Chicago Ill *Paul E Derrick Adv Agency New York* N Y Pope F F, Ashby, Mass Pressey, A J Cleveland O Publishers' Collection Agency (2) Chicago Ill

Randolph J, Arvonia, Va Rio Chemical Co St Louis, Mo Rowley, W S Indianapolis Ind

Sprague W B Eureka Springs Ark Steele W J Brooklyn N Y Smith, Kline & French Co Philadelphia Pa Straw E E, Rural Retreat Va *Schering & Glatz* New York N Y

Trowbridge L S Detroit Mich Tri Elixiria Remedy Co, Memphis, Tenn

Van Houten & Ten Broeck New York N Y Van Slyke W H Hancock, Mich

Warren W M, Detroit Mich Willard State Hospital, Willard, N Y Whetstone, A S Milaca, Minn West S, L, Philadelphia Pa

The Journal of the
American Medical Association

Vol XXXI CHICAGO, ILLINOIS, NOVEMBER 19, 1898 No 21

ADDRESS

MEMORIAL ADDRESS ON THE DEATH OF DR I N QUIMBY,

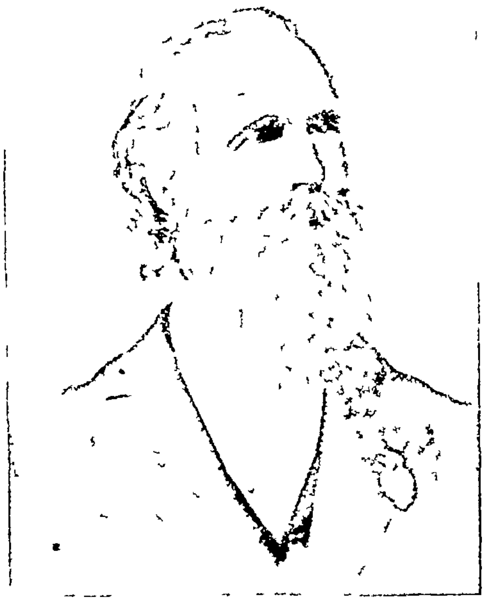
CHAIRMAN OF THE SECTION ON STATE MEDICINE,

BY CHAS H SHEPARD, M D

CHAIRMAN PRO TEM
BROOKLYN, N Y

The loss of our Chairman, Dr Isaac N Quimby of New Jersey at a time when we were expecting so much from him, is a heavy blow

Dr Quimby was one who impressed all favorably at first sight, but a closer acquaintance more distinctly revealed his noble qualities His genial manner and forcible way of presenting whatever he had to say, whether in public debate or in the private circle, won for him a host of friends



ISAAC N QUIMBY, M D

Born Aug 5, 1831, and educated in New Jersey, he early turned his attention to the medical field of his native State, graduating in 1859, from the University College of New York, the second in his class, with a special certificate of honor Upon the breaking out of the Rebellion Dr Quimby entered the army as a volunteer surgeon, serving with Gen McClellan's forces in the Chickahominy swamps He was at Harrison's Landing, and at Antietam, remaining with his division until after the battles of the Wilderness, when on account of illness he returned home, and shortly after resumed his medical practice

His experience eminently qualified him to fill a lectureship in the spring course of the University Medical College in 1866 68, and also as assistant to Prof A C Post, in his surgical clinic Soon after, his activity found vent in the establishment of the Hudson County, now Christ's, Hospital, of which he was the originator in 1868, and he continued as its surgeon until 1873, at the same time being one of the attending surgeons of the City Hospital, Jersey City

His membership in the AMERICAN MEDICAL ASSOCIATION, and as one of the Judicial Council was marked by a broad and liberal spirit that gave him a large popularity, and nearly landed him in the presidential chair His visits abroad as a delegate from the AMERICAN MEDICAL ASSOCIATION, to the International Medical Congress in London, in 1881, again to Copenhagen, in 1884, and at Rome, Italy, in 1894, added to his ripe experience and gave him a large fund of knowledge which made him more useful for the remainder of his days This same spirit drew him into the membership of the numerous medical societies including the American Medical Temperance Association, of which he was one of the founders, and its vice president until his death

His labors in the temperance field were marked by a thorough earnestness He approached the subject from a scientific standpoint, his experience both in hospitals and private practice confirming him in the conviction that total abstinence from alcohol was the only safeguard for our people No one was more ready to make sacrifices, either of time or money, for this great truth With both pen and voice he sought unweariedly to promote this movement, which seemed so important to him

But of all the causes he espoused, that of scientific temperance education in the public schools throughout our land appealed to him most forcibly as the one foundation of all reforms, in that it commenced at the fountain source His clear mind appreciated the advantage to humanity which would be gained by having our children taught the facts with regard to the action of alcohol and other narcotics For five years he was senior member of the medical committee having in charge that noble work of enlightenment, and in no place will he be more missed than in that advisory board His earnestness, combined with quick perception and fearless action, kept him always in a leading position

The practical side of Dr Quimby was shown by the fact that he devised several important improvements in surgical operations, and a number of valuable papers illustrating them are on record Not alone to the medical field was his work confined but his public spirit gave him the high honor of being president of the first Citizen s Association of Jersey City, in 1870, which was instrumental in breaking the corrupt official ring which then controlled the affairs of that city Again his industry and zeal for the good of his fellow-citizens was marked in exposing and blocking corruption in the State legislature in

1882, and his integrity of character was such as to bring to him the nomination, in 1883, of Governor of New Jersey, by the prohibitionists, which honor he declined

In the midst of his busy life this great man has fallen, and all of us feel that we have lost a genial friend and a trusted counsellor, who was ever ready to give us of the best that he had Taken ill on the 29th of April last, his life forces were so exhausted that he could not rally, and in one week he passed to the great beyond On May 11 he was laid in his final resting-place, leaving his bright example as a valuable heritage to cheer us on in every good word and work

What lesson has his life left for us? He was sixty-seven years young, for he could not be called an old man One thing it may teach us not to be so prodigal of our life forces It is likely that had he been a little more conservative of his strength he might still have been with us Let us then study more earnestly those things that tend to the preservation of life and the prevention of disease, which our Section so nobly represents Preventive medicine, as we understand it, leads to the prevention of the use of medicine by advancing along sanitary lines, with such care of the body and its environments that disease will be prevented, and the use of medicine rendered unnecessary

This work is committed to our hands, and let us realize that it is not for today alone that we plod, but as the movement passes along to succeeding generations it will gather increasing force and become a blessing to millions yet unborn Thus shall we aid in the great work of humanity

By all means let us have a Department of Health

ORIGINAL ARTICLES

ABOULIA IN RELATION TO HYSTERIA

Presented to the Section on Neurology and Medical Jurisprudence, at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo , July 7-10 1898

BY L HARRISON METTLER, A M , M D
Professor of Physiology of the Nervous System in the College of Physicians and Surgeons of Chicago (Medical Department of the University of Illinois)
CHICAGO

That hysteria is a cerebro-spinal neurosis is now an accepted fact In its many neuromimetic manifestations it presents both a psychic and a purely neurotic front It is a mental trouble, but has associated with it at times undoubted sensory-motor disturbances Sir James Paget used to say that the hysteric exclaims, "I can not," that it looks much as if it were "I will not," but that in reality it is, "I can not will " This is one of those clever generalizations that cover much knowledge, but still leave much unsaid Certain paralyses and anesthesiæ of hysteria can not well be attributed to volitional influences, at least in their late manifestations Something more than a mere oblivion of the will power must be invoked to account for some of the singular phenomena revealed in connection with the special senses Many of the visceral and vasomotor symptoms are clearly beyond the power of the patient's volitional faculty Hence, hysteria must be recognized as a double-faced phenomenon There is a clearly-defined affection of certain centers lower than those that subserve the purposes of mentalization Hysteria is not entirely an affair of the brain and the will This fact has introduced much confusion into the study of the pathology of the disease Can it be possible, in view of this double sidedness of the symptoms of hysteria, that the latter is really a combination of two affections a mental (psychic, volitional) and a more strictly neurotic (subpsychic, ganglionic)? Some have so thought, but the distinction is arbitrary, for mentalization is as much neurotic as is any more strictly sensory-motor manifestation

Without doubt, hysteria is *ab origine* a functional disturbance of that part of the encephalon or cerebral center concerned in the make-up of the so called faculty of the will On the other hand it is equally true that many of the symptoms of hysteria, such as hemianesthesia and anuria, reveal a functional disturbance of nerve centers much lower than those of the cerebral cortex Therefore, either we have two forms of disease under the head "hysteria"—a cerebral and a spinal neurosis—or we have a general concomitant neurosis of the whole cerebro spinal apparatus, its manifestations revealing a variety in harmony with the various functional characteristics of the different centers involved, or we have a single disease, a functional disturbance of the cerebral (psychic) centers involved in the constitution of the intellectual faculties (especially the so-called volition) and this in turn affects secondarily the lower or subcerebral centers The first two views are not as popular as the last Gowers seems to accept the third view, for he says "it is certain that the disease (hysteria) can only be really cured by the restoration of the normal balance of cerebral function but the secondary disturbance of lower centers (e g , vasomotor) may at times preponderate over that which can be recognized in the highest, and may be independent in their degree and in some cases apparently (though not really) in their occurrence " My own observations, both here and in Paris, incline me strongly to regard hysteria as primarily a cerebral trouble, an aboulia, and it seems to me that the aphorism of Sir James Paget is in the main correct

Now, to harmonize this theory of hysteria with the manifestations of the disease in the lower or subpsychic centers, I have for some time past felt that there must be a change made in some of our notions in regard to the so called volitional faculty For example, it seems clear enough to me that every case of genuine hysteria (in which category I do not class hysterical manifestations of purely reflex origin) has its start in a disturbance of the will power, but if I regarded the will as a distinct entity, a special faculty with a special habitat, I do not understand how it can *directly* affect the lower, involuntary centers I can not comprehend how an individual's disturbed will power can bring about a hemianesthesia and its transference I must reconstruct my old psychologic ideas in regard to the will, or else relinquish the view entirely that the will is at all concerned in the phenomena of hysteria I can not do the latter, and so I have accepted a theory of the will which seems to me logical, and on the basis of which I see my way clear to an explanation of the phenomena of hysteria

What is the will and where is it located? Is it, as some of the older psychologists taught, an intellectual faculty, existing per se and having a local habitat in the brain? The will-function has obviously to do with every voluntary organ and tissue in the body, and if it were possible to definitely locate its center, say somewhere in the fore brain, much of the confusion now surrounding pathology would vanish It would then be comparatively easy to understand how this faculty, seated in diseased brain tissue, might emit or receive abnormal impulses from all the organs of the body Such an explanation would be eminently physical and easy of elaboration Such an explanation would rest, however, upon an erroneous conception of the prime nature of volition *The will is not a faculty that emits or receives anything It is a term, a definition, merely expressive of a choice, the preponderance of a motive, the outward representation of an inward impulse that is stronger than the other impulses* The manifestation of volition usually terminates in an action, but this action is not the result of the operation of some particular volitional center in the cortex, it is the result of certain ideas or feelings (impulses) which preponderate at the time and so involve more or less the whole sensory-motor apparatus In the language of Ribot, "voluntary activity appears to us as a stage in that progressive evolution which proceeds from simple reflex action, where the tendency to movement is irresistible, to the abstract idea, where the tendency to action is at the minimum " The will is thus merely a consciousness of a kind of internal, mental reflex Mind is made up of sensory-motor activities, real or representative On the one hand, a vast quantity of afferent impulses, pouring in through the various avenues of special sense and being stored up in the brain by means of heredity in the race and simple memory in the individual, interweave themselves into latent ideas and feelings These latent impulses, awakened into activity by newer incoming impulses, set into play the motor or idio-motor representative centers, which send out efferent impulses to terminate in muscular action The transitional process that takes place within the brain from afferent to efferent impulse is recognized in consciousness, and is spoken of as the exercise of the will As I have just intimated, the time of the reception of the afferent impulses that ultimately go to make up the mental world of ideas and feelings and the time when the corresponding efferent impulses that terminate in voluntary action are sent out need not necessarily be the same or even successive If a voluntary act is performed today (efferent impulse), the preponderating idea or feeling which gives it birth (afferent impulse) may have been acquired years before and have lain dormant in the meanwhile The essential fact in regard to voluntary action is that it is always necessarily preceded by some idea or motive, and this idea or motive may have been stored up by memory or by heredity years before The reflex character of the will is the point to be insisted upon It is made up always of an antecedent and a consequent, the transference of the former into the latter is what consciousness recognizes and denominates the will

Upon first thought, this reflex theory of the will would seem to banish all notion of its freedom, but here again the error is made that the will is a special faculty a thing by itself, of which freedom may be predicated But there is no such entity as the will, and a thing that does not exist can not be said to be bounden or free The so called will, let it be repeated is merely the expression or conscious representation of a set of impulses acting more vigorously at the moment than any other set of impulses The phenomenon of inhibition illustrates well this conception of the will Take for example the depressive effect of fear A child learns by observation when its guardians are angry with it It sees the raised hand and the frown on the face It learns to associate these signs with punishment and pain (afferent impulses) The memory of pain (latent impulse) awakens a mental state in which certain intended actions are inhibited (efferent impulse) At times these awakened memories (latent impulses) of pain are overridden by others (also latent impulses) more powerful, such for instance as some strong feeling of pleasure expected of the intended action, and as a result the desired inhibition does not obtain In the latter case the child does what it wanted to in spite of the threatened punishment The afferent impulse which awakenened in memory the idea of pleasure in connection with the intended action was stronger than the afferent impulse which was associated in memory with the idea of pain Hence the efferent impulse represented by the child doing what it intended to do was different It looks as though the child willed differently, in reality there was merely a conscious transference from one action to another in accordance with the relative strength of the preceding motives (afferent impulses)

A burglar fears the law to a certain extent and his memory of punishment, acquired by instruction or by actual experience, inhibits him so much in his acts that what he does he does by stealth and under the cover of darkness If the motive for burglarizing be much stronger than his fear of punishment he will be less restrained and bolder His mental inhibition will be overcome by his mental avariciousness This mental conflict, this internal struggle between motives of various strengths, these motives having all been acquired some time previously through the special senses, terminates in some corresponding form of action, and to the onlooker from the outside it appears as though the man had merely exercised some faculty, the will, in deciding to act as he did Two latent impulses may at times neutralize each other and we say of them, the individual will is paralyzed A burst of anger, for instance, may be made to suddenly vanish by a recollection of a terrible accident to the victim of the anger

In all these instances the actions of the individual are "willed" in accordance with the predominance of this or that motive, but the "willing" process is not the result of an action on the part of some special faculty seated somewhere in the frontal lobe and directing this muscle or that organ to functionate The will is, therefore, psychologically at least, "an individual reaction," and "that which is inmost to us "

'The ego, albeit an effect, is a cause and that in the strictest sense " "To sum up, we have seen that from the lowest reflex action to the highest act of will the transition is imperceptible and that we can not say precisely where volition proper, that is the personal reaction, begins The difference is the most pronounced at the two ends of the series at one end extreme simplicity, at the other extreme complexity on one hand a reaction that is ever the same in all the individuals of the same species, on the other a reaction which varies according to the individual Simplicity and permanence, complexity and change are here paired (Ribot) In the consideration of hysteria and its management this conception of the will is of immense importance and thr[illegible] light [illegible] much that has heretofore been da[illegible]

This conception of the will in

reflex, or as Ribot expresses it, a reaction Aboulia means, therefore, a paralysis of the psychic or mental reflex According to the latest physiologic data, the cortex is as much peripheral in relation to the centers of subconsciousness as are the integument, muscles, etc An impulse originating in the cortical motor area is *reflected* through the lower subcortical ganglia and anterior cornua to its appropriate muscle just as much as though it had been reflected from some point in the skin around through the anterior cornua to the corresponding muscle We are all familiar with the reflex picture presented when some portion of the body comes unexpectedly in contact with a hot iron The reflex picture produced by an awakened sensory area of the cortex is just the same, though not as apparent as the former Let me illustrate Suppose I move my arm The older psychology would say that such a movement being voluntary, originated in some special volitional faculty Upon a moment's reflection I think it will be seen that such a movement of the arm, though originating in the cerebral cortex, is as much of a reflex as if the same movement had been produced by touching a hot piece of iron The only difference is, that consciousness is *immediately* cognizant of the former reflex When I "willed" to move my arm, I did so from some motive; else there would have been no movement Inertia is as much a law of the mental as of the physical world In analyzing the motive that caused me to move my arm, there is found underlying it some previous sensory or apparent impulse which may have immediately preceded the movement or have been stored up in memory a long time before Some discussion I may have had with a friend about the movement of my arm, or some desire I may have had to show my prowess, which desire may have been originally implanted in me by some one praising or criticising me, or any one of a thousand different reasons may have led me to move my arm I certainly had a motive for moving it at all and that motive was created out of some influence from the outer world exerted upon me through one or more of my special senses at or prior to the moment when the arm was moved

Suppose I touch a hot iron and then in spite of the pain, keep my hand on the iron Is not that a pure voluntary act in direct opposition to a reflex? No, in such a case the cortical reflex is merely stronger than the cutaneous Why do I keep my hand on the heated iron in spite of the pain? Simply because I have a motive for so doing That motive may be the love of praise, emulation or experimentation, but whatever it is, it is based upon some previous sensory impulse poured in upon me from the outer world Those impulses have been received, and if they have been latent, have been stored up in the sensory cortex The matter may be formulated somewhat thus No motive, no voluntary act, no sensations, no motive, hence all voluntary acts are in their last analysis referable to prior sensations and the so called will is thus shown to be a sensory-motor reflex

I grant this does not leave much room for the idea of a "free will," but it appears to me as a most rational explanation of volition, which in its final analysis proves to be merely the personal reaction of the individual to past and present impulses The 'wills' of different individuals, or their personal reactions differ just as the sensibilities of all mere protoplasm, the amebæ, for instance, differ in their response to external irritation If this explanation of "will" be well understood, much can be made clear as to the nature and treatment of hysteria

We call hysteria a neurosis, a neuromimesis In its typic form it seems to be a rational disorder, almost an aboulomania, yet there are symptoms as I have said before, that seem to lie outside of the influence of the will It is both a psychic and purely neurotic disease Psychosis and neurosis are, however, the same Mind is made up of sensory motor phenomena or their cortical representation I have endeavored to show that "will" especially is merely a sensory-motor reflex, and, therefore, hysteria from every point of view is simply a neurosis It is a neurosis of the cerebro spinal system involving its great sensory motor reflex function In idiopathic hysteria it is the higher arc, the cortical reflex arc, that seems to be affected, in hysterical manifestations due to extra-neurotic lesions it is the lower or subcortical reflex arc that is involved The reflex character of the hysterical manifestations caused by a diseased ovary are obvious enough at times, but while not so obvious, nevertheless just as much of a reflex is the hysteria produced by cortical trouble such as may have been produced by bad heredity, bad education, bad discipline and other factors that enter into the making of the individual's character, *his personal reaction* We say a hysterical patient's will power is at fault, as a fact, however, her higher sensory motor reflex apparatus is at fault, and she does things and reveals symptoms because certain bizarre impulses have taken the place of more rational and appropriate impulses The trouble may be entirely on the sensory side of the arc, and in most cases it is, then, in conjunction with the various anesthesias, there may be complete absence of choice between motives or complete non volition (aboulia) Again, the impulse from the sensory side of the arc may be so feeble as to awaken only the feeblest sort of a motor response (partial aboulia) Thirdly, the impulse from the sensory side may be so abnormal and extraordinary as to terminate in the strangest sort of movements (aboulomania) A hysterical patient, therefore, may exhibit sensory or motor paralysis (volitional) from mere absence of appropriate sensory impulses, or from two or more sensory impulses conflicting and neutralizing one another, or, she may reveal the strangest sort of motor symptoms and assume attitudes (for sympathy and effect, we say) because her motives (sensory impulses), past and present, have been unnatural and inappropriate Illustrations of all these conditions will readily occur to any one who has seen much of hysteria Therefore, I think we can safely say that hysteria is a neurosis involving the great sensory-motor reflex function of the cerebro-spinal apparatus, that the typic form (aboulia) is a disturbance of the higher (cerebral) sensory motor reflex as much as are the hysterical symptoms caused by a disturbance in the lower (spinal cord, ganglionic) sensory-motor reflex arc Being a neurosis, involving all the cerebro spinal reflexes, it is easily seen why hysteria should mimic all organic diseases involving the same reflex arcs

From the above standpoint, the treatment of hysteria becomes plain In the lower form of the disease all extraneural sources of irritation should be sought for and removed so as to restore the integrity of the lower reflex arcs In the higher form, a new set of different impulses and new motives should be awakened so as to restore the equilibrium of the higher or cortical sensory-motor reflex arc Of course, heredity is a tremendous obstacle to overcome, but is not altogether insurmountable Given, therefore, all measures to restore the physical condition nutrition, etc , of the tissues involved, the treatment of hysteria resolves itself into the study and correction of the patient's sensory-motor reflexes This involves so many obvious details that I will not occupy your time now in rehearsing them

Reliance Building

THE RELATION OF NEURASTHENIA TO INSANITY

Presented to the Section on Neurology and Medical Jurisprudence at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo , June 7-10 1898

BY JOHN PUNTON, M D
KANSAS CITY MO

The vast increase of our knowledge of the nervous system and its application to disease has been found to be most useful in the correction of certain former erroneous inferences Hence a complete revolution has taken place in our knowledge of its pathologic states, which has also been the means of greatly enlarging the range of its organic lesions, at the same time materially limiting the scope and significance of its so called functional affections In spite of our grand success, however, in unraveling the secrets of the morbid changes in both structure and function of the neuron, much still remains to be done before we can successfully cross the Rubicon that separates organic lesions from those that are of purely functional origin

This uncertainty of our knowledge has led to the formation and maintenance of a false system of nomenclature which not only confuses but greatly hinders the progress of scientific nosography Hence many terms have come into general use which at the time of their advent were very convenient screens to shield our ignorance, but as our knowledge increased the scope of their power and significance was greatly reduced and limited, until today a larger and fuller knowledge renders many of them futile and actual misnomers Others again embody a generalized morbid state or condition which later investigation renders capable of scientific classification, thereby greatly limiting their former power and significance, and unless the physician is fully aware of the changes wrought by such advance, he is greatly handicapped in his interpretation of the term, and his skill in diagnosis proportionately suffers In no branch of medicine are such mistakes more common and conspicuous than those found to be associated with lesions of the nervous system Nor is this strange when we remember its complex mechanism and the difficulty experienced in mastering the details of its scientific study in health and disease

One of the most striking and widespread examples of mistaken identity in the true interpretation of the significance of the term is found associated with the morbid condition designated as "neurasthenia I doubt if there is a more common and serious affection of the nervous system that is more generally misunderstood by the profession at large than this *fatigue-neurosis* It is surprising to find the gross indifference manifested on the part of many physicians toward its real nature and character Not only do they treat neurasthenia carelessly, but they refer to it slightingly, and imply both by word and conduct that they believe the patient to be a malingerer, and that his sufferings are entirely false and even conjured for the occasion It will, therefore be the purpose of this paper to try and correct such erroneous inference as well as place it upon its true scientific basis

The term "neurasthenia was supposed to have been first used by Dr Beard in describing a general morbid weakness or exhausted state of the nervous system Later investigations, however prove that his claim to priority in its use was an erroneous one To Dr VanDusen belongs the credit of using it as early as 1867 in his valuable paper entitled "Observation Upon a Form of Nervous Exhaustion, or Neurasthenia Culminating in Insanity ' which appeared two years earlier than Beard s famous monograph It has since been shown, however, that neither of these physicians invented the term, as it can be found in Dunglison's Medical Dictionary published in 1833 Notwithstanding these facts, the medical profession is under lasting obligations to Dr Beard for the persistent manner in which he emphasized the importance of its study, thereby acquiring for himself an enduring monument in medical science Prior to his labor in this direction, much confusion prevailed in the interpretation of a large group of symptoms which were fundamentally dependent upon a morbid weakness of the nerve centers, but which had been previously ascribed to disease of the various visceral organs involved, such as perverted conditions of the kidney, liver, stomach, uterus, etc The result of Beard's work, however, led to a more thorough systematic study of its pathogenesis, which is still in progress, and the conclusions so far reached warrant the assertion that expresses an affection which does not limit itself to any part of the nervous apparatus, but affects it as a whole Hence it is an extremely generalized condition, and often associated with other functional and organic diseases

Its extremely generalized character may therefore affect the brain, spinal cord, peripheral nerves, the visceral organs, and indeed all parts of the human organism subject to nervous innervation Consequently its symptomatology is exceedingly extensive and varied This wide range of involvement has led to much confusion and is the responsible agent for the vague, ill defined notions entertained by many concerning the true nature and character of neurasthenia, some physicians even going so far as to deny its existence altogether as a clinical entity Laying aside all controversy, the consensus of opinion today by those most competent to speak declares that neurasthenia in its quintessence is a true fatigue neurosis characterized with an increased morbid reaction of the ganglionic nerve centers to all kinds of impressions, both mental and physical, whether slight or profound producing an excessive nervous weakness and nervous irritability, which constitute its chief cardinal symptoms Moreover recent investigation demonstrates that while the various symptom groups occurring in neurasthenia are numerous and differ widely in detail, yet there are always present certain essential features that constitute a well defined clinical syndrome These have been termed by Charcot as neurasthenic stigmata

All authorities agree that the cardinal symptoms of neurasthenia present well marked evidence of weakness and irritability of the nerve centers which in themselves are expressive of fatigue Weakness and irritability of the nervous mechanisms that preside over the various bodily organs are, therefore, the chief clinical phenomena, belonging to any and all varieties of neurasthenia. These may present themselves in all degrees of intensity and are usually accompanied with other symptoms which denote the particular functions of the nervous system that are involved. Hence we may have involvement of the motor, sensory, reflex, trophic, secretory, visceral and psychical mechanisms which furnish a wide and varied range of clinical phenomena. But it matters little what part of the nervous apparatus is included in the pathologic process, the two dominating factors that are present and common to all varieties, and that which defines neurasthenia as a separate and distinct clinical entity are weakness and irritability of the various nervous functions involved. They are, therefore, properly regarded as the essential primary or fundamental symptoms of the lesion while all other associated clinical evidences of involvement are termed secondary or adventitious symptoms. These latter may be the outgrowth of the former and are simply parts of a well-defined harmonious entity.

Neurasthenia, therefore, presents two great classes of symptoms, viz. primary and secondary or adventitious, which may affect both the physical and mental constitution in varying degrees of intensity. The skill of the physician, therefore, in its diagnosis depends upon his ability to differentiate the one from the other, and upon this largely hinges the prognosis. Moreover, neurasthenia is variously classified by different authors according to its etiology, symptomatology or the apparent seat of lesion. Hence we may have cerebral, spinal, traumatic, sexual, toxemic, reflex and many other forms of the disease. While no doubt this method has some advantages, yet it often proves very confusing and misleading.

A classification that recognizes neurasthenia in its entirety is to my mind, therefore, much preferable, and from this standpoint it can be reduced to two classes viz. 1, complicated; 2, uncomplicated neurasthenia. In the former it may be found associated with many functional as well as organic diseases, such as epilepsy, syphilis, malaria, gout, rheumatism, uterine disease, hypochondria, sexual perversion, insanity, as well as many other morbid conditions. In the latter it presents itself by a conspicuous absence of any such complications, in which case it is known as simple or uncomplicated neurasthenia. The effects of either class, however, produce symptoms which may be referred to both the physical as well as mental constitution of the individual, and present a wide range of clinical phenomena that are, for the most part, subjective in character. While it is true that much speculation has been indulged in relative to its pathology, we are still compelled to admit that so far we are unable to positively declare what the actual changes of the nervous elements are in neurasthenia.

The two important symptoms, viz. morbid irritability and morbid weakness of the nerve centers, have been shown by Hodge to be due to changes in the nerve cell itself, and that the lesion of fatigue is loss of cellular substance involving the nucleus, protoplasm and even the capsule itself. According to Dercum, this waste of nerve substance had been demonstrated by Mosso to alter the constitution of the blood, producing a true toxemia that strongly inhibits the physiologic action of the nervous elements distributed to the voluntary muscles and other organs of the body. Let this be as it may, it is certain that the element of autotoxemia enters largely into the production of neurasthenia and often gives rise to tissue changes that are commonly found associated with its more severe forms. The continued results, however, of nerve strain from any cause, that form so prominent a factor in American business, social, political and professional life, operate upon the physical and mental organization in such a manner as to exhaust strength or vital force more rapidly than recuperation takes place. Consequently nervous exhaustion or neurasthenia ultimately ensues. More especially is this found to be true of persons inheriting a neurotic diathesis, as this renders them more susceptible to the baleful influences of the common causes of neurasthenia. Excess and abuse, of any and all kinds, with faulty methods of living, operating upon such an individual are recognized by all authorities to be potent factors in the production of neurasthenia. Dana claims that the causes of neurasthenia can be reduced to two agents, viz. bad heredity and foolish living (*Twentieth Century Practice*).

The reduced nervous energy that results from such causes seriously affects the visceral organs and nutritive functions of the body, which is expressed clinically by a marked weakness or inaction as well as want of vigor of all the bodily processes. A feeling of bodily illness is thus engendered that attracts the attention of the patient to himself and ultimately forms the basis of morbid fears or nosophobia. This again leads to the development of despondency, petulance, irritability, selfishness, impatience and vacillating conduct, all of which are marked features of the formative or incipient stage of insanity. All authorities agree that incipient insanity is attended with physical and mental changes that are indicative of nervous exhaustion, and that clinically they are expressed by a diminution or want of vigor of all the bodily processes. Moreover, despondency and nervous irritability are also marked features of early insanity.

The relation of neurasthenia to insanity, therefore, cannot be overestimated, indeed the relation one bears to the other in a large number of cases is so very close as to almost establish a true equivalency. Kirchoff has clearly shown that certain insanities, such as melancholia, mania, paranoia and paralytic dementia may develop upon a neurasthenic basis, while Chapin, in his recent work on Insanity, just published, also declares that the larger proportion of hospital admissions received in an acute stage of insanity have a history of neurasthenia. He therefore fitly styles it the "soil out of which insanity develops." Unfortunately, too often the close relation that exists between neurasthenia and insanity is entirely overlooked and even ignored. Consequently many a curable case becomes incurable by failure on the part of the physician to recognize its true nature and character. Moreover, its close relation to hysteric states often leads the physician to treat it with contempt, under the mistaken idea that the barometric changes from day to day indicate a fraudulent basis. Nothing could be further from the truth, as there is plenty of evidence in every genuine case of neurasthenia to explain its fluctuating tendencies even in its most simple and uncomplicated forms. One of the most important signs of neurasthenia becoming complicated with mental disorder is the manner in which the feelings, thoughts and actions of the patient absorb his entire attention. This self-consciousness is a marked feature of many forms of neurasthenia and betrays the serious invasion of the higher mental faculties in the progress of the malady

These concepts have been variously designated by different authors as obsessions, impulsions, imperative concepts, besetments and fixed ideas They usually consist, however, of a general feeling of anxiety, which amounts to morbid doubts and fears that later lead to impulsive acts They irresistibly force themselves upon the individual, dominating his every thought, word and deed In their more severe forms they constitute the various phobias, but as they present themselves in all degrees of intensity, it is the degree combined with their persistency that indicates their true seriousness For convenience of study Regis (See Manual Mental Medicine, p 262) has divided them into three classes, viz 1, those characterized by indecision, of which all kinds of morbid doubts are typic, 2, those characterized by all kinds of morbid fears, 3, those characterized by morbid propensities or irresistible tendencies Each of these is again subdivided For instance, Ball has divided the first class, or doubters, into five subdivisions, according to the nature of their predominating ideas Hence we have 1 "The metaphysicians, who are especially haunted by abstract questions of all kinds, such as doubts concerning heaven, hell, the world, the deity, etc" 2 "The realists, who constantly revolve in their thoughts the lower and base details of objects, such for example as the conformation of the genital organs, copulation, etc" 3 "The scrupulous, whose doubts pertain to forms of religion, such as accusing themselves of committing the unpardonable sin, or of some theft, etc" 4 "The timorous, who are fearful of committing some indelicate action by even allowing their clothing to come in contact with that of others, etc" 5 "The counters, whose doubts are manifested under the form of irresistible enumeration" Such patients never get through counting different objects, such as door knobs, the houses on the street, or their numbers, etc"

The second class, or those suffering from morbid fears or phobias, is divided into three subdivisions — 1 those who have a morbid fear of all kinds of objects Its expression is extremely varied, and may involve such articles as glass, knives, pins, guns, thunder, flowers, besides certain kinds of food and drink 2 Those who have a morbid fear of places, elements or diseases Such patients are morbidly fearful of high places, bridges, streets, churches, theaters rivers, beside a dread of all kinds of diseases, such as heart disease, liver disease, cancer, etc 3 Those who have a morbid or irresistible propensity to steal, lie, cheat, drink, blaspheme, set on fire, or abuse the sexual organs All of these various states are ably shown by Regis to be due to lesions of the will and are often associated with neurasthenia

In a limited degree they are commonly present in health, indeed very few of us escape the presence of doubts, fears or impulses as isolated sudden thoughts, but which are controlled by the dominating power of inhibition For instance, it is a common experience for persons looking from a height to be tempted to jump down or in walking on the street are suddenly siezed with a desire to count the houses or numbers on the doors, etc But these sudden impulses are easily resisted or controlled but when they appear as a complication of neurasthenia, they are often morbidly persistent and get beyond the control of the will In their exaggerated forms, they therefore constitute a serious symptom and may become the dominant feature of a grave form of insanity In all cases, however, where their presence can be demonstrated, they are to be regarded as marks of true degeneracy, often remaining latent for years, to be brought to the surface by some sudden or severe shock to the nervous system, such as trauma, or severe mental and physical strains, beside excesses of all kinds That such states also often accompany insanity is generally recognized but I repeat it is their intensity combined with their persistency that indicate their true seriousness Moreover, there can be little doubt that certain crimes are due to such sudden impulses which arise in the minds of persons who are not ordinarily regarded as insane, and which the subjects are wholly unable to resist Hence they are truly irresponsible and should be given the benefit of the doubt From the fact that such symptoms are so frequently seen in both neurasthenia and insanity, the close relation that exists between the two cannot be overestimated Indeed, all the evidence proves conclusively that neurasthenia in its more profound types presents many symptoms in common with true insanity, and the line of demarkation that separates the one from the other is at times as dimly drawn as that which exists between sanity and insanity, physiology and pathology

Moreover, the teaching of our text-books in regard to their differential diagnosis is often very misleading, for we are taught to believe that in neurasthenia the morbid fears can be removed by a process of reasoning, and that the patient can be convinced of his mistaken ideas while in true insanity no amount of reasoning succeeds in convincing the patient of his mistaken notions If this was taken as a criterion, many a neurasthenic patient would be regarded as suffering from insanity, when as a matter of fact his neurasthenic condition had not reached that extreme degree of mental impairment that is synonymous with true insane delusions although the morbid fears apparently resist all forms of reasoning It must be confessed, however, that when the morbid doubts or fears reach a certain degree of intensity, combined with persistency, they then often become the equivalent of true insane delusions and should be treated accordingly

That many cases of neurasthenia become thus complicated is clear to all, and the importance of the close relation that exists between neurasthenia and insanity, I repeat again, cannot be overestimated indeed it often requires at best much practical knowledge and experience to recognize the appearance of one and the disappearance of the other

In conclusion I wish to add that in the preparation of this paper I desire to acknowledge my indebtedness to such authors as Regis, Dercum, Dana, Gray, Kirchoff, Clouston, Blandford, Diller and many others beside cullings from recent neurologic and psychologic journalistic literature

DISCUSSION

Dr Meyer—The daily work in the hospitals for the insane leads one continually to the following dilemma that we either have to give up making diagnoses and take everything as diffused manifestations of sickness or disease in which case we would be inclined to let neurasthenia be just one of the initial symptoms of insanity—something that may or may not go over into insanity or we can take the plan which I am more inclined to follow for clin [illegible] single out those forms of neurasthenia which we know are initial stages of certain forms of disease, and try to keep those separate and apart from neurasthenia that always remains neurasthenia without ever going over into insanity Dr Maclean has made a classification of insanity in which he takes neurasthenia to be the initial symptom of all general insanity, even of general paralysis If we do that we give up all clinical method The fact that symptoms in the beginning of general paralysis may be those of neurasthenia should not induce us to say that that is the same neurasthenia which may exist independently and never go over into general paralysis except after previous syphilitic infection For clinical reasons, therefore, in working out problems, I should hesitate very much to allow neurasthenia to take quite as broad a field as Dr Punton gave it We have to distinguish besides, the simple neurasthenic constitution then the real fatigue neurosis, then the initial stages of definite forms of disease, such as general paralysis, and such as periodic insanities or any special form of insanity I admit that it is at present almost impossible to say at the start in certain forms of neurasthenia what it is I think that it is easy enough to distinguish the constitutional neurasthenia from an acute fatigue neurosis, it is also rather easy to distinguish neurasthenia that is the beginning of general paralysis, but, nevertheless, there will be a great number of cases that will lead us into the habit of looking upon neurasthenia as that diffused field into which we are inclined to throw anything that we can not classify anywhere else

Dr H S DRAYTON of New York—My first acquaintance with this Protean form of neurosis was derived from reading certain pamphlets by Dr Beard of New York I think it is to Dr Beard that we owe the term 'neurasthenia" Some eighteen or twenty years ago he published a volume entitled 'American Nervousness,' in which he described a train of symptoms that seemed peculiar to American civilization, and a little later he came out with this term 'neurasthenia" He described the peculiar category of symptoms which were included under this form as having a particular relation to our American climate and civilization, and since I have heard a good deal about the Denver climate of late I have been wondering whether or not there is anything here that is at all curative of neurasthenia Now it seems to me that in the effort to make a differential statement so that we can determine at all what there is peculiarly its own in neurasthenia, we might ascribe to that form of nerve disease a capricious category of symptoms, that is, that neurasthenia is indicated more by caprices of habit, caprices of mental expression The causative factors are to be looked at from the point of view of the individual's heredity and life, as in all forms of nerve disease Not long ago Dr Spitzger, whose name I think is very well known in this circle, delivered a very elaborate opinion with regard to the difference to be drawn between neurasthenia and melancholia, and in a nutshell, he seemed to be of the opinion that most neurasthenic troubles were traceable to specific cause Looking at the subject from one aspect, that is, the number of cases of young people affected, young men especially affected by neurasthenia it strikes me from my own observation that the great majority of these causes are found among the comparatively young, so that it may be termed a trouble or affection of those chiefly under 40 years of age Now, can we fairly discriminate, I might ask, can we draw a very fine line of demarkation between neurasthenia and melancholia? It strikes me that we cannot From what I have heard from the late reader in that most admirable paper, my opinion is confirmed in regard to the relation of neurasthenia to insanity Accepting that view, we see the necessary relation to melancholic patients

Dr TOMLINSON—The more experience I have in the observation of cases of insanity the more am I confirmed in the conclusion that it is about time to call a halt in multiform classifications and diagnoses, and while we can say that the average case of insanity presents certain physical conditions which have for their outward manifestations the characteristics of neurasthenia, still, at the same time, this is present in all cases of insanity, and there is no difference between the neurasthenic manifestations of an insane person and the neurasthenic manifestations of a person who is not insane So far as trying to make a relation between them is concerned, it only ends in confusion While the insane person may in the earlier stages, or may, all through the outbreak of mental disturbance, manifest neurasthenic symptoms, still the neurasthenic symptoms have nothing to do with the insanity, nor does the insanity have anything to do with the neurasthenia It is a matter of relation rather than of causation It is not those cases in which neurasthenia is most marked that afterward become insane The same holds true with regard to the other conditions which are supposed to differentiate forms of insanity, and so far as their practical care and treatment are concerned, in the effort to make a diagnosis and to put this case or that case into a marked classification, this has a tendency to obscure and interfere with our treatment Furthermore, there is not, so far as I know, any pathologic difference, and we have to go further back in the history of the case to determine just what the significance of these manifestations is It seems to me it lies in the difference of degree of instability or defect in the individual who becomes insane or neurasthenic, and that we can get a clearer and more definite idea of the subject by recognizing the neurasthenic as representing a certain degree of instability So long as we do not bear this in mind, the more we try to classify, and the more we try to understand these cases, the more will we become confused In my own work I have practically given up attempting to make a diagnosis or attempting to classify one case from another, because I see that one case, although it may manifest a certain number of symptoms which might place that individual case in a certain classification, still during the period of the illness or mental disturbance there will be a whole host of other symptoms manifest themselves which would seem to put the case in another category So, while it may for a time be of interest to classify them, so far as the patient is concerned, it is important to recognize that it does not make any difference what their condition is—what we have to deal with is the insanity, and back of that is the degree of the defect of the individual, and upon the degree of that defect will depend the diagnosis

DR HOPPE—I believe that the view which the individual members hold depends upon the standpoint from which they see their cases whether in insane asylums or in general practice Personally I have never seen but one case of neurasthenia pass into insanity I believe that these cases are very sharply divided and identified and I do not think that the pure form of neurasthenia will ever pass into insanity For instance, take that class of neurasthenics who have fixed ideas Their judgment may be wrong in this respect, but in all other respects it is right It is not so much an error of judgment as it is based upon a fear which can be classed among the photophobias or neurasthenias which occur in those cases of neurasthenia which are constitutional in character and based upon hereditary defects I believe there is a very sharp line of demarkation between neurasthenia and melancholia It is true that in neurasthenia we have depressed states but that in my estimation does not constitute melancholia I believe that the fundamental idea of melancholia is the idea of self accusation that the patient takes some point in his past history, real or imaginary which he accuses himself of having committed, and which he looks upon as the cause of all his mental pain and suffering, whereas we never see that in the depressed form of neurasthenia

Dr ESKRIDGE—I shall have to differ from my friend Dr Hoppe I have seen quite a number of cases of neurasthenia pass into melancholia During the past fourteen years I have been able to follow my cases from the clinic room and the office to the insane asylum, having the privilege of visiting patients there from time to time during that period I have thus been able to follow a great many cases of neurasthenia There is a very close relation between neurasthenia and insanity I doubt very much whether any one can positively say that a given case of neurasthenia will not pass into melancholia I doubt very much whether anyone cay say with any degree of certainty that this particular case of neurasthenia is not melancholia A great many cases of melancholia begin with neurasthenic symptoms Whether that passes into insanity depends upon several causes, but two of the principal are the hereditary condition of the patient— that is the nervous stamina—and the man's hands into which the patient falls There is certainly a very strong personal element in treating these cases of neurasthenia and beginning cases of melancholia That person who can inspire confidence, that person who can make his patient feel that he or she is going to get better, whether he is a good physician or not, will have more effect than a second physician who has not personal magnetism I do not believe that we ought to try to draw a hard and fast line between neurasthenia and melancholia

Dr JOHN PUNTON, Kansas City—I have nothing more to say except that I appreciate highly the kind manner in which my paper has been received and from the remarks that have been made it is evident that we are not altogether settled in our opinions as to whether there is a relation between neurasthenia and insanity or not As far as I am concerned, my position is the same as Dr Eskridge's

A CLINICAL STUDY OF MULTIPLE NEURITIS IN YOUNG CHILDREN

Presented to the Section on Diseases of Children at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY ANNE STURGIS DANIEL
PROFESSOR OF PEDIATRICS WOMAN'S MEDICAL COLLEGE OF THE NEW YORK INFIRMARY
NEW YORK CITY

The following brief clinical studies of multiple neuritis embrace only those cases in which were found motor and sensory paralysis of symmetric development, but do not include that form of neuritis which affects only the muscles of the palate or of the nose, as shown by regurgitations of fluids, with nasal voice or those cases affecting only the ocular muscles

Diphtheria is undoubtedly by far the greatest cause of multiple neuritis Comparatively few cases are caused by the other infectious diseases Smallpox is not infrequently a cause of the disease, but I have seen no mention made of chicken-pox giving rise to the disease I, unfortunately, have one case to report of the production of the disease by arsenic given during the course of treatment of chorea I have twelve cases to report, the causes of which were arsenic administered for chorea, 1 child, diphtheria, 9 cases, varicella, 1 case, and measles 1 case Seven children were cured, 5 died In none of my cases were the sphincters involved, in all cases there were some deviations from the normal mental condition of the child This last symptom I have seen little stress laid upon The first symptom noticed was simply a weakness of the extremities, followed rapidly by inability to stand or walk—the motor paralysis appearing first, followed at once by the sensory paralysis, the recovery being first of the sensory and later of the motor paralysis

No allusion was made in medical literature of paralysis following diphtheria until the end of the 16th century, the first mention being made in 1580 Ghisi, in 1747, describes an attack in his own son, and adds that he "left to nature the cure of the strange consequences' The first description of the disease in America was given by Dr Bard of New York, in 1771 Few authorities describe multiple neuritis in children, although diphtheretic paralysis was described long before the disease was considered to be a neuritis In looking over the statistics of paralysis following diphtheria, I find no distinction is made, or in only a few instances, of paralysis affecting the throat only and a general multiple paralysis In the collective investigation of the American Pediatric Society, of 189 cases, the paralysis was general in 8 only They report 3384 cases with 9 7 per cent followed by paralysis Various other estimates are given of from 5 to 15 per cent All authorities agree as to the rarity of death, although one authority thinks physicians are too optimistic in regard to the mortality Of my 9 cases, 3 were treated during the attack of diphtheria with antitoxin, of these three, 2 died Five of the 9 children were treated during the attackof diphtheria In 7 cases the Klebs-Loeffler bacilli were found, the other two occurred before the discovery of the bacilli The ages varied from 23 months to 12 years

Case 1 —Willis S , the youngest child, 23 months, had an attack of diphtheria moderately severe One week later there was hoarseness followed by regurgitation of fluids through nose nasal voice and internal strabismus of both eyes At the end of the first week the child was unable to stand alone or walk pain over track of nerves most marked in the lower extremities, anesthesia, as shown by the indifference to prick of pins the temperature test was not applied the child lacked its normal intelligence The symptoms increased rather in extent than intensity, the muscles of the neck becoming involved The rectal temperature varied from 101 to 104 5, with at the end 106 Death occurred in a spasm at the end of the fourth week from the first appearance of the sore throat

Case 2 —Joe S , 4 years, seen on the eighth day of diphtheria Klebs Loeffler bacilli found, nose, pharynx and tonsils involved moderately severe attack, throat normal and free from bacilli on the thirteenth day after the first symptoms Thirty one days after the first appearance of the sore throat, or eighteen days after recovery from the diphtheria, nasal voice and regurgitation of fluids were noticed, and the child walked with difficulty, this increased in severity, the child became unable to either stand or walk alone, pain on pressure over the nerves of the lower extremity, with anesthesia The muscles of the trunk and neck were not involved The child again began to walk fifteen days after the symptoms of nasal voice and regurgitation were noticed, with complete recovery shortly after

Case 3 —Sara N , had a mild attack of sore throat, according to the history of the mother, from which she recovered In the fifth week after, nasal voice and regurgitation of food began The child complained of being tired and disinclined to walk, this gradually increased, and at the end of four weeks she was suddenly seized with pain in all the extremities, and shortly after was unable to stand, walk, sit or hold head up marked tenderness and anesthesia in all extremities The temperature test showed great pain when heat was applied, but she insisted that the cold made her feel much better The tenderness over the track of the nerves was intense, the temperature varied from 101 to 104 5, there was gradual loss of intelligence Five days after she complained of severe pain, the physical signs of broncho pneumonia were found, death occurred in the ninth week from the first symptoms of sore throat

Case 4 —John K , 3 years, recovered from a mild attack of chicken pox about July 1 On the 7th the child was attacked by laryngeal diphtheria Antitoxin was given, and the child was completely recovered by July 14 the bacilli persisted until July 31 August 1 the mother noticed the nasal voice and a very slight regurgitation of fluids—on the 7th the child held the head to one side staggered when attempting to walk, and fell down frequently, four days later was unable to stand alone, anesthesia marked, temperature test showed heat felt over a part of both limbs—of lower extremities, less on upper and on the trunk Child at times seemed delirious, intelligence very much below his normal, died suddenly, apparently from cardiac paralysis on the eighteenth day after the first regurgitation of fluids

Case 5 —Mild attack of diphtheria, December 30 Antitoxin given, complete recovery on the eighteenth day February 7, without previous reguritation of food, child began to limp, and fell down a great deal, complained of pain in the legs, four days later could walk only by dragging the feet, and at times crossed his legs during locomotion, could not stand nor walk alone, marked pain over track of nerves, with marked anesthesia of both legs, no reaction to cold temperature test Slight reaction to heat, upper extremities normal, could sit alone, but only a few minutes On the sixteenth day internal strabismus of the left eye was noticed, on the twenty first day attempted to walk, twenty days later completely well The intelligence of this child was less affected than the others

Case 6 —Annie P , 9 years Early in November had an eruption on the hands, the nature of which was not known No attention was paid to this, and about December 1 complained of inability to walk, and regurgitation of fluids and nasal voice When seen a few days later could neither stand or sit alone tenderness over track of nerves, patella reflex nearly absent The symptoms remained about the same for a month, then marked change in the intelligence, utterly unable to move the lower limbs or hold the head up, tenderness over track of nerves much more marked, with marked anesthesia Entire absence of patella reflex, slight atrophy of lower limbs could not swallow even solid food without choking All symptoms continued to increase in severity intelligence became more affected, there was anesthesia of all limbs and of the throat, as shown by the indifference to the introduction of the stomach tube, this being at first much resisted The disease lasted from November 1, the time of appearance of the eruption to January 29, when death occurred apparently from cardiac paralysis

Case 7 —George Mc., 5 years In the latter part of March had a mild sore throat well in a week One month later child began to behave strangely and staggered when walking This slowly increased then nasal voice and regurgitation of food

In ten days from first symptoms, child decidedly idiotic Could not sit, stand or walk, even with much assistance Pain over track of nerves, anesthesia most marked in the lower extremities Patella reflex absent On the fifteenth day very slight improvement, which gradually increased and the child was entirely well, with his usual intelligence thirty days later

Case 8 —Charlie S , 4 years Diphtheria September 1, moderately severe , treated with antitoxin , made a good recovery October 5 child became sleepy, some regurgitation of fluids , two days later marked tenderness over track of nerves in the lower extremities , unable to stand alone or walk , four days after the first symptom of regurgitation, child unable to hold head up or sit alone , very marked tenderness over the track of the nerves in the lower extremity, to a less extent in the upper extremities , anesthesia marked over lower limbs, less over upper , in parts of chest and abdomen marked anesthesia , much muco purulent discharge in mouth and throat , intelligence much diminished , the lungs showed signs of a general broncho pneumonia, and very numerous pleuritic râles The patella reflex entirely absent The anesthesia and paralysis became marked, and death occurred on the ninth day from the first symptom of regurgitation and weakness

Case 9 —Christine N , 6 years January 6, mild attack of diphtheria, from which she apparently completely recovered February 18, feverish and vomited , complained of much pain in both legs and was unable to walk, admitted to the New York Infirmary for Women and Children , absence of patella reflex on both sides, marked pain and tenderness over the track of the nerves, with very marked anesthesia to prick of pins and to the heat test, slight reaction to cold , upper limbs and trunk were normal, both feet extended , neither nasal voice or regurgitation of fluids , child not so bright as she is normally , can not stand alone nor take a step alone Symptoms gradually decreased and child was well, with normal sensation and no paralysis March 27

Case 10 —Nettie B , 9 years February 29, eruption of chickenpox, which followed a normal course Two weeks later child was taken out by an elder sister and complained of being too tired to walk , was out a long time and returned complaining of pain in both legs and inability to stand or walk alone When seen the next morning there was marked tenderness over the track of the nerves, diminished patella reflex The inability to walk increased , pain became more marked with noticeable anesthesia , nearly entire obliteration of patella reflex Symptoms remained about the same , child could walk with great difficulty when supported The disposition was extremely "cranky," the reverse of her normal condition The upper extremities were at no time involved At the end of three weeks the symptoms diminished in intensity, and gradual improvement took place The child was perfectly well by May 15

Case 11 —Rose B , 11 years Entered the New York Infirmary, February 20, with a mild attack of chorea , by March 22 there had been little improvement in the symptoms and 5 minims Fowler's solution was ordered to be given every three hours day and night, a minim to be added each day On March 29 she was taking 11 minims, when she vomited and the drug was discontinued for twenty four hours April 7, she was taking 119 minims, when a red papilla eruption was noticed, and symptoms of gastric catarrh, and the note was made that the arsenic had very little effect upon the chorea, so it was discontinued April 13, the child seemed not to see and hear well On the 19th very little twitching , May 2, no twitching During this time the child had been disinclined to walk , had not seemed as intelligent as usual May 12 the gait was very irregular and uncertain , dragged both legs , there was marked tenderness on pressure over the nerves , on the 21st utterly unable to stand alone, much pain over nerves, marked anesthesia in lower limbs The symptoms of neuritis reached their height at this time and began slowly to disappear June 4, began to walk a little with assistance , July 9 walking normally , no tenderness over the nerves , anesthesia had disappeared , discharged July 14, with no trace of either neuritis or chorea

Several cases similar to Rose B are found in medical literature, but the dose at the time of the development of the neuritis was smaller This child received in the last twenty-four hours of the medication Fowler's solution fl ʒiiss, or 1 3/5 gr arsenious acid One case is reported by Dr Roberts, in which the child received 66 minims in twenty-four hours in three doses In my case the symptoms of neuritis at first closely resembled those found at the end of chorea The weakness and paralysis, with the anesthesia, appeared abruptly The upper extremities were not affected, but the trunk muscle seemed weak, the child could sit alone only for a few moments

Case 12 —Anna J , 4 years December 2, eruption of measles in the normal manner December 3 the child refused to speak , seemed apathetic A day or two later would smile and laugh without reason Seven days after the first appearance of apathy the child could neither sit nor stand alone, cried when placed on her feet , marked tenderness over the track of the nerves in the lower extremities, with anesthesia Between the third and the seventh day the symptoms gradually progressed and reached their height on the seventh day, remaining the same until the eleventh day, when she began to notice a little, and made her desires known by crying and pointing to objects, and attempted to stand but cried when placed on her feet On the sixteenth day made an attempt to speak, but seemed unable to articulate , tried to walk on the nineteenth day, and was able to articulate , could stand alone and walk, but incoordinately, on the twenty second day , by the twenty eighth day could speak distinctly, if not excited, put words into sentences, walked about but staggered some , pain over track of nerves and anesthesia nearly gone Child walked normally at the end of six weeks , spoke as well as before illness at the end of three months

In none of my cases were the sphincter muscles attacked The family history in all cases was unimportant, except in the case of George N , whose parents are alcoholic, and Charlie S , whose mother died of tuberculosis during the child's attack of diphtheria All the children except Nettie B , were tenement-house children The sanitary surroundings of John K were especially bad, the child lived in rooms into which daylight came in midsummer only from 10 A M to 3 P M

The differential diagnosis was made chiefly from Landry's paralysis, but in this the paralysis begins in the legs, spreading from one to the other, then to the upper extremities, in my cases the paralysis began in both legs at the same time In the cases of diphtheria the nasal voice and regurgitation preceded the loss of power in the limbs, in none of my cases was there a question of poliomyelitis The question of Freidrich's disease, I think, could be thought of only in the case of the child with measles, the only resemblance being the disturbance of speech From myelitis the diagnosis was made from the symmetrically located pain, and no involvement of either bladder or rectum, and in each case the distinct history of a preceding infectious disease, except in the case of Annie P , in which the diagnosis of an infectious disease was uncertain, but with the first symptoms of inability to walk, was present the regurgitation of fluids and nasal voice, which are not found in myelitis The treatment consisted of strychnin, either by the mouth or hypodermatically, stimulants when indicated

---

THE RECOGNITION AND TREATMENT OF EARLY MYXEDEMA IN CHILDHOOD

Presented to the Section on Diseases of Children, at the Forty ninth
Annual Meeting of the American Medical Association,
held at Denver Colo June 7 10 1898

BY FREDERICK BIERHOFF, M D

Clinical Assistant, Department of Pediatrics College of
Physicians and Surgeons
NEW YORK CITY

That myxedema is not a disease *per se*, but a symptom, or collection of symptoms, dependent upon the absence, or upon a diseased condition of the thyroid gland, is now generally accepted to be a fact, the degree of severity of the symptoms depending upon the extent to which destruction of the secreting portion of the gland in question has taken place That cretinism, myxedema and goiter (so-called) are but variations of the one disease, is a view that is gaining adherents, as closer study into these conditions reveals the similarity in many of their symptoms, and the excellent results obtained in their treatment by the same therapeutic means Sir William Gull[1] first defined myxedema as "a cretinoid state supervening in adult life in women," and drew attention to the similarity between myxedema and cretinism, expressing his opinion that both are allied Ord[2] and others have also pointed out this similarity

The accepted cause of the conditions is either absence of, or disease of, the thyroid gland If the gland is congenitally absent, we get the condition known as true cretinism, either congenital or sporadic When changes in the gland occur early, we have the cretinoid condition, or early myxedema, when these changes occur in persons who have attained full physical growth, we have myxedema So much of value has been written of recent years in relation to the first and third divisions mentioned above, that it would be presumption on my part to add to or criticise, but in relation to the second, or type of early myxedema, it may be pardonable to present a few cases for consideration

Sadie K.

Sadie K.

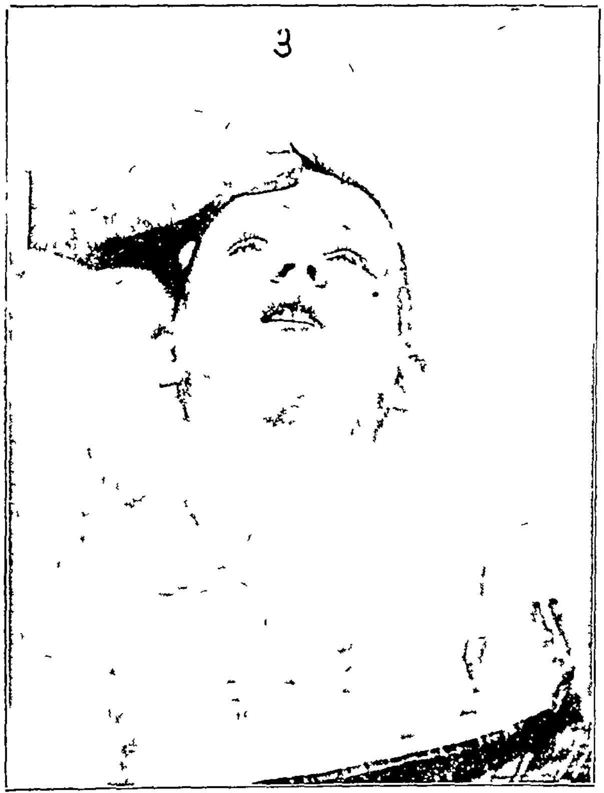
It was the occurrence of goiter in cases presenting some of the symptoms of myxedema, but in which growth had not been arrested, which first drew the writer's attention In the adult, myxedema is nearly always found accompanied by a reduction in the size of the thyroid gland Criminis,[3] however, records a case in Thibet, in which the gland was enlarged In the Clinical Society's report in 59 cases of myxedema noted, 4 showed enlargement of the gland, and in 3 of 22 of the total number of cases, the gland had previously been enlarged It is very probable that, in these cases of enlargement without exophthalmus, we have to deal with a gland in the early or hypertrophic stage of a cirrhosis Where this enlargement or hypertrophy is not general, we probably have to deal with a simple hypertrophy of the functionating portion of the gland consequent upon changes in another portion Murray,[4] in his excellent article on myxedema, says, in dwelling upon the differences between the varieties of myxedema "In this connection it must be borne in mind that the actual size of the thyroid gland is not necessarily an indication of the amount of functional activity of which it is capable A considerably enlarged gland may, from the nature of the structural enlargement, be just as incapable of carrying on its function as an atrophied gland" At the same time, the presence of a goiter does not of necessity presuppose myxedema, since that portion of the gland which remains may suffice in secretory power to continue the patient's normal health Witness the fact that in some cases where goiter has been present from childhood, growth and the mental status have apparently not been interfered with, and the patient is, to all appearances, in perfectly normal health, but where the entire gland takes part in the process, the patient's health must suffer

Having a change in the structure of the gland we naturally get a change in the character, or quantity of the gland secretion, or both, and it is to this change that the symptoms of these allied conditions are due Where the goitrous enlargement disappears under the use of thyroid extract or other preparation of this gland, it is very probable that, through the entrance of the active principle of the preparation—believed to be an organic iodin compound, discovered by Baumann and by him named thyreoiodin—into the system, the deficit of this compound in the patient's economy is made up, an equilibri [illegible] est [illegible] ed, and the abnormal activity of [illegible] of the gland ceasing, this decrea

In view of these facts, I think we are justified in looking upon a spontaneous enlargement of the thyroid gland occurring in infancy or childhood, as being the precursor of more pronounced symptoms of myxedema, if allowed to go unheeded

In this connection the following cases may prove of interest

Case 1 —Sadie K , 8½ years Both parents American No tuberculous or specific disease on either side, maternal grandfather has a well marked goiter which, he says, has been present as long as he can remember (Patient first seen during the early part of January, 1897 Child presents a well marked tumor over the anterior and antero lateral aspects of the neck Tumor first noticed two years ago, and has been growing slowly but steadily ever since Tumor corresponds to the location of the thyroid gland, and measures, as nearly as can be determined, about 3½ inches horizontally, and about 2 inches vertically (See Figs 1 and 2) The left side of the tumor (right of cut) gives a distinct sensation of fluctuation, presumably due to a cyst The outline of the cystic portion shows the left lobe and the isthmus to be involved Over the right lobe the outline is less distinct, and the sensation that of a solid growth

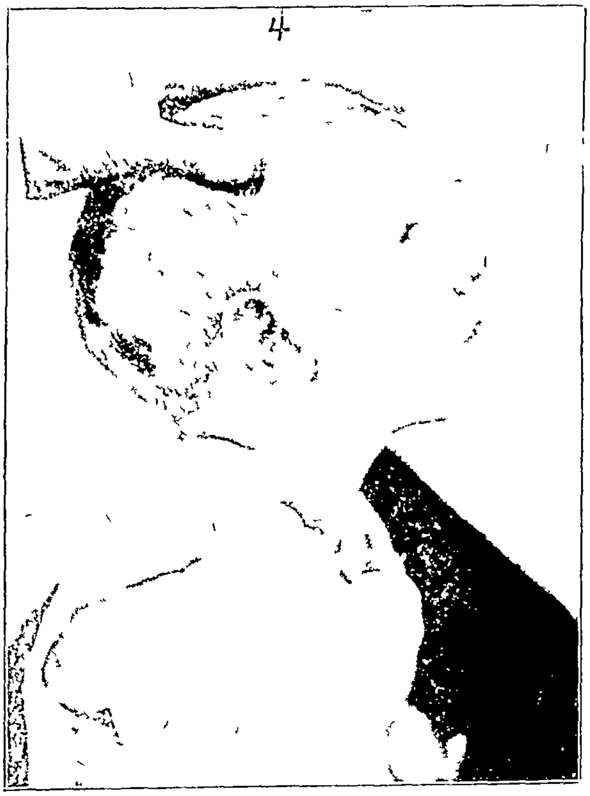


Sadie K

No pulsation over the tumor, no dilatation of the superficial vessels, no pressure symptoms, no apparent thickening, or scaling, or abnormal dryness of the skin Hair coarse and dry, no falling out of hair has been noticed Patellar reflexes unimpaired, no giddiness or headaches It has, however, been noticed that the child's memory is somewhat impaired, in that she is beginning to forget her childish rhymes and songs She is also less inclined to play with other children than formerly

She was at first put upon the saturated solution of potassium iodid, in drop doses, t i d This was continued for three weeks, with the result that the tumor became distinctly more tense and hard, but no smaller January 26 the iodid was stopped, and the patient put upon a reliable preparation of thyroid extract, in tablet form, in doses of three grains, once daily for three days, after this in the same dose, twice daily, and then, after the same length of time, this was increased to three times daily, at which dose it was continued Within two weeks a marked diminution in the size of the tumor was perceptible, preceded by softening over its entire surface By the middle of the following April the tumor had entirely disappeared, and the child was to all appearances normal (See Figs 3 and 4) For some months the extract was continued in single daily doses of three grains, after which its use was again interrupted Within a month the gland began to enlarge again The resumption of treatment was again followed by a prompt reduction in size The same results occurred in each instance, upon interruption and resumption of treatment At the present time, and for some months past, the patient has been receiving a single dose of ½ gr every second day, and the gland and the general condition have remained normal

Case 2 —Sylvester C , 11 years Hungarian Came under treatment during the summer of 1897, for a cough which had persisted for some months, accompanied at times by slight muco purulent expectoration Physical examination revealed signs of a mild tracheo bronchitis The thyroid gland was appreciably enlarged, although, owing to indistinctness of its outline, the exact measurements could not be obtained On palpation, the enlargement was apparently uniform over the entire gland, and nowhere of a cystic nature Inquiry revealed that the mother of the boy has had a goiter since childhood, but apparently enjoys good health No family history of syphilis or tuberculosis obtainable, except that a paternal uncle died of phthisis The tumor had first been noticed four years ago, and had grown slowly No symptoms of mental change had been noticed The use of thyroid extract was begun—in addition to a mild expectorant—in accordance with the plan outlined in Case 1, with the result that, after one week's treatment, the tumor had decidedly diminished in size After three weeks the gland had returned to its normal size, and remained so until the case passed from under observation some weeks later This removal from treatment was reported to be due to the fact that the mother said that she had had a goiter from childhood without suffering, consequently she could see no reason for its treatment in the boy The cough had disappeared entirely



Sadie K

Case 3 —Mary McD , 14, Irish parentage The child was brought for treatment August 2, 1897, because of habitual constipation, frequently accompanied by headache Further questioning and examination, because of the typically myxedematous character of the skin of the face, elicited the following facts History of the beginning of the condition is indefinite The mouth and limbs twitch a good deal at times Sleeps poorly, is dull and listless, sitting in an apathetic condition almost the entire time, does not care to play Memory very poor The child is of an affectionate disposition but rather timid At times develops a destructive tendency, although this is not marked, this condition has, however, been more marked during the past year At times complains of a pain in the cardiac region, and of shortness of breath Speech is indistinct and stuttering Seems to grope for the words Slight thyroid enlargement The child began to menstruate when 9 years old, and this function continued quite regularly for two years During the past three years, however, it has been entirely absent Thickening and puffiness of the skin, especially of the trunk and face, teeth irregular and of Hutchinson type, slight anemia, hair dry and wiry No especial loss of hair has been noticed, although the eyebrows and lashes are scant Some drooping of lower eye lids, and puffiness of the skin under the eyes Slight internal strabismus, noticeable only at times Heart action rapid and somewhat feeble

Since the change in the child's condition was first appreciated, it has been noticed that perspiration has lessened, until now it is practically absent, even in hot weather At the beginning of the change she was in next to the highest class in the primary grade in one of our Public Schools As the condition developed the child was gradually "put back" into lower classes until she was again in the lowest class Her teachers then recommended her removal from school The girl is the product of the third conception The first terminated at the seventh, the second at the middle of the eighth month In both instances the fetus was still born No *direct* history of specific disease in either parent is obtainable Several other children in the family are apparently normal and healthy Weight 68 lbs

The diagnosis of myxedema accompanying congenital syphilis was made, and the treatment, as outlined in Case 1, begun September 15, a gradual improvement has been noticed since the beginning of treatment Child acts brighter, wants to go out and play First change noticed was that the child, of her own volition, seized a broom and swept the room Now desires to help her mother with work, such as drying and washing dishes Speaks far more plainly Begins to spell and write again September 22, at the end of the first week of treatment weighed 65½ lbs, now weighs 70 lbs She again takes up her slate and has begun to play with her doll Recalls some facts about her class and teacher November 1, much brighter, wants to go to school, sleeps quietly at night now Has begun to read in the "first reader" Has become sensitive to the taunts of her playmates Not much lessening as yet in the thickening of the skin Since the above the child has been kept steadily under observation and treatment The mental condition has slowly but steadily improved While still far from being a bright child, she is, compared with her former mental state, a different being The general physical condition, too, is much improved, although there is still much thickening of the skin The thyroid enlargement disappeared within the first month of treatment

The only unpleasant effect of the extract noticed in any of the cases, was restlessness during sleep in Case 1, after the treatment had been in progress several weeks Cessation in the use of the extract for a few days was quickly followed by the complete disappearance of the symptom

I have chosen to class the above three cases together as variations in degree of the one condition, myxedema, for I believe that in those cases of goiter in which thyroid extract exerts a beneficial effect, by causing the disappearance of the enlargement, we have to deal with a condition of the gland, which may, if unchecked, go on to the development of a more pronounced form of this disease, as we see it in the adult, or of the cretinoid state, according to the age of the patient Furthermore, I hold a trial of the thyroid extract, in cases of goiter without exophthalmos in children, to be fully justified Bruns[5], of Tubingen, in speaking of the treatment of twelve cases of goiter gave as the result Four children (ages 4 to 12), were cured completely At the end of a fortnight there was a marked decrease observable in the size of the tumor, and in one month thereafter it had entirely disappeared In one case of goiter, accompanied by a cyst in the thyroid, the goiter disappeared, but the cyst remained unaffected by the treatment He gave one to two drams of the fresh thyroid gland inclosed in a wafer, or in a sandwich, once a week His conclusion was that the treatment succeeds best in children Herrick[6] states that thyroid extract is of value in simple hyperplastic struma, especially in the young

I am indebted to Prof A Jacobi and to Dr F Huber, his chief of clinic for the privilege of reporting Cases 2 and 3

139 West 126th St

REFERENCES

[1] Clinical Society's Transactions vol vii 1874
[2] Medico-Chirurgical Transactions vol lxi 1877
[3] British Medical Journal April 4 1891 p 77
[4] Twentieth Century Practice of Medicine vol iv p 69
Medical Record 1895, vol xlvii p 116
[6] Medicine, vol ii, No 8

NEURAL DYNAMICS

Presented to the Section on Neurology and Medical Jurisprudence at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY W J HERDMAN, M D , LL D
ANN ARBOR MICH

The learned author of our most recent work on the nervous system and its diseases has said "Some knowledge of the dynamics of the nervous tissues is of fundamental importance to the student of nervous phenomena and nervous disease, who should know something of the stimuli to which nerve cells and nerve fibers react, of the manner and degree of this reaction, of the phenomena by which it is attended and of the nature of molecular transmission " (Chas K Mills)

Progress in clearing up the mysteries which attend especially the origin of functional disorders of the nervous system requires more complete and exact knowledge of neural dynamics And as the organic changes are but the secondary stages of disorders which were necessarily functional in the beginning of the derangement, faulty dynamics must account for these also

In the nervous system, exhibiting vital phenomena either of normal or abnormal nature, we have to deal with matter and motion the same two elements which underlie all the phenomena of the physical universe Right conceptions therefore of the nature and arrangement of the matter which constitutes nervous tissue and of the motions which act upon it and originate in it are indispensable to a correct interpretation of nerve action Our knowledge is changing and enlarging daily concerning the structure and arrangement of the nervous tissues which constitute the machinery that serves to receive, transform and transmit the motion peculiar to it, and this added knowledge requires us to modify the conceptions we have previously entertained of the workings of that mechanism It is but natural that the recent positive acquisitions to our knowledge of the minute structure of the nervous system have stimulated endeavors to explain by means of them many of the phenomena, both physiologic and pathologic, which are associated with nerve action, such as sleep, hypnotism, hysteria, epilepsy, etc, which have baffled all attempts at explanation and yet have for many reasons provoked perpetual inquiry But it has seemed to me that all attempts at explanation that have come under my notice, even though they have called to their aid the evidences furnished by modern histologic research, have been too narrow in their conception and too limited in the range of elements considered as entering into the processes dealt with, to be of much profit in elucidating them I refer especially to such suggestions made by several biologists and some neurologists as the one that the phenomena of mental action hysteria, hypnotism, sleep, etc may be accounted for by the mobility of the dendrites of the cortex neurons Even if we should ultimately discover it to be a fact that the neuron prolongations possess such mobility—for this at present is little more than an assumption—the questions still remain to be answered What occasions such movements? And how do they serve to transmit impressions from neuron to neuron? We must have firmer ground to rest on than that furnished by a doubtful ameboid movement of neural protoplasm before we can form a very rational or comprehensive conception of the dynamics of the nervous system

Starting with the essential elements by means of which nerve phenomena are manifested, we find them consisting of three main sets of neurons 1, The afferent (or sensory), 2, the central, 3, the motor or efferent These constitute the machinery for transforming various forms of what might be termed extraneural energy into neural energy and again delivering it in some form to the outer world In considering neural dynamics therefore, we have to occupy ourselves with the nature of this machinery, the neurons, and with the various forms of energy which it serves to transform

We find the neurons discontinuous cell elements best arranged for their effective work in chains, each link so related to its special associates as to, in some manner, influence them and not others These cell-elements are composed of a vitalized protoplasm of highly complex chemic composition in which conditions are most favorable for a great range of molecular rearrangement and modification The character of the arrangement and modification of the protoplasmic atoms and molecules will of course be determined by the nature of the motions to which they are subjected, and whereas, we can conceive a congregation of living protoplasmic molecules may offer at first some resistance to any extraneous form of motion by reason of their pre existing inter chemic and inter-molecular relations, yet any added motion from external sources to which they are able to respond would in time, by its frequent repetition, result in modifying their structure and arrangement While we may not be able, as yet, either by chemic analysis or by microscopic research to distinguish any difference in the composition or structure of the protoplasm that makes up the substance of neurons differing in function, yet it is presumable that such a difference does exist, and is evidenced by their special capacity to respond to certain forms of motion and not to others This assumption of the difference in molecular arrangement of the protoplasm of neural chains of different function, is still further justified by the very evident structural difference in the end-organs of the neurons where they first receive that form of motion to which they are especially sensitive and which constitutes their peculiar stimulus

The human organism possesses six distinct forms of peripheral expansions of sensory neurons olfactory, optic, auditory, gustatory, tactile, muscular, all of which can be readily demonstrated, and it is highly probably that sensations of temperature and the various forms of common sensation (such as that of position pain, hunger, thirst, fatigue) have a special terminal nerve structure capable of responding to the conditions which attend each of them It is chiefly by means of these special mechanisms constituting the end-organs of the sensory nerves that the human organism is capable of utilizing the various forms of energy which it receives and in turn transforms them into the neural and other activities characteristic of animal life Energy in the form of translatory motion of comparatively slow and perhaps irregular periods is transformed into nerve motion by the tactile corpuscles and the nerve terminations in muscle spindles More rapid translatory motion with shorter wave lengths excites the mechanism which ultimately reaches the special end-organ of the auditory nerve

The sense of touch and the muscular sense are excited by direct pressure of an object on the end organ, or by the communication of such pressure through the medium of the overlying skin or other tissues In the sense of hearing the end organ of the auditory nerve requires that the pressure be communicated through the medium of the elastic atmosphere, which, while it is motion of much greater frequency of pulsations of periods (16,000 per second being the ordinary limit of sound perceptions for the human ear), is still a form of motion that may be termed molar in distinction from molecular motion The end-organ of those neurons that are designed to detect varying degrees of temperature are tuned to molecular motion in which the wave lengths and the frequency of vibrations far exceed those which excite the auditory sense Radiant energy, which in its slowest molecular vibrations we recognize by the temperature sense as heat, consists of vibrations in the ether of at least 107,000,000,000,000 per second, and as the highest audible note that can be detected by the best trained human ear is produced by about 40,000 impulses per second, there remain over thirty-one octaves of vibrations which, in all probability, exist in the universe either in the air or in the ether, for which the human organism possesses no receptive mechanism by which consciousness can be impressed, since we have no sensory nerves adapted for responding to such vibrations as intervene between the highest sound vibrations that the human ear can detect and the slowest ones that are recognizable as heat

The ether vibrations known to us have a frequency varying from 107,000,000,000,000 per second to 40[illegible],000,000,000,000,000 per second, a range which if expressed in musical terms would amount to about 18½ octaves All of these ether waves are capable of transformation into heat or chemic action, according to the nature of the substance upon which they fall The slower waves are, however, better adapted for transformation into heat, the more rapid ones for effecting chemic interchange Certain of these ether waves, those with a rapidity of vibration from 293,000,000,000,000 to 757,000,000,000,000 per second "not only produce thermal and chemic effects, but have the power when they strike the retina of the eye of causing changes in the layer of rods and cones, which in their turn act as a stimulus to the optic nerve" The primary stimulus is here, as in the touch, muscular, auditory and temperature sense end organs, a wave of motion communicated from an external source either by direct contact or through the medium of the air or the ether If the rods and cones be wanting, as when the structure of the retina atrophies, ether waves, within the specified range for the normal retina, may beat upon the wasted surface continuously but without avail in exciting light sensations The peculiar structural or molecular arrangement which is present in the normally acting rods and cones of the retina is indispensable for the production of visual sensations, as likewise are ether waves of the proper rapidity

While we do not know positively the nature of the change which takes place in any one of the forms of sensory end-organ so far considered, when acted upon by its appropriate kind of motion, analogies in physics and mechanics teach us that the end-organ is simply a machine devised for transforming that special form of motion into another form of motion that we term nerve-motion The majority of the facts, which we have not now time to enumerate, appear to justify the conclusion that the first step in this transforming process is a chemic change, a rearrangement in the protoplasmic molecules of which the cells in the end-organs are made up

In the two remaining special senses—smell and taste—where the substance affecting the end-organ first enters into solution and is thus brought into intimate molecular contact with the cells forming the end-organ of the sensory nerve, the chemic nature of the primary step in the stimulation seems to be without question Since atoms of substances known to us make up the protoplasmic molecules of these end-organs, and since motion in forms with which we are also somewhat familiar are the primary agents of stimulation or excitation of these molecules, we are justified in attempting an explanation of what occurs by the use of these terms already familiar to us before assuming the intervention of any new or less familiar ones We know that these various forms of motion do cause molecular rearrangement, that is, chemic modifications, in the complex organization of living protoplasm Unstable protoplasmic compounds in the end-organs are shaken into an arrangement of molecules more stable, and the molecular or chemic rearrangement results in the setting free of a certain amount of energy in some form, to become potential or be expended elsewhere What occurs as a result of this is a modification of some sort, in the peripheral neuron with which the end-organ is connected, a modification that enables it, in turn, to change the conditions present in more central neurons with which its ramifications are associated Whenever the energy set free in a peripheral sensory neuron gives rise to changes in an associated central neuron that energy has taken the form of some sort of motion

In the light of our present conception of the histologic composition of the nervous system, that of associated but disconnected individual elements, what is the form of motion that will best account for this influence which we see exerted by one neuron upon another? In attempting to answer this question we must remember that "chemic action implies electric action, electric action implies conduction and induction, distribution and attraction, resulting in movements which may be massive, molecular or atomic, and these movements result in selective groupings" (A E Dolbear) It is possible that the resulting movements due to chemic changes and their accompanying electric action, which takes place in a neuron as the result of stimulus, may have at times a range sufficient to be detected under the microscope, provided the conditions are favorable, and so give foundation to the belief in ameboid movements of nerve-cells, but this is merely incidental It is certainly true, and can be demonstrated, that the molecular disturbance within the protoplasmic contents of a living cell does cause a change in the surface tension of the cell, and this is accompanied by a difference in electric potential which is also demonstrable Not only at the moment of stimulation would the living neuron possess this condition of surface tension and electric potential of static form, but this would be its normal condition at all times, as a result of the nutritive activities in the protoplasmic contents At the moment of appropriate stimulation the electric potential would be in some degree changed—either increased or diminished—and the relations which neurons bear to each other in associated chains is such that a variation in the electric potential in one would be attended by a corresponding change in the others Some such view of neural dynamics appears to be held by Broadbent, who in a recent address on 'Brain Origin" (*Brain*, 1895), after reviewing certain of the current theories, has said, "It has long seemed to me that a conception which better fits in with all the phenomena of nervous action is, that instead of this passive attitude of the periphery and centers one to the other, and of the centers, sensory and motor alike, toward each other, the relation in all cases is one of mutual tension and resistance That is, that at all points specialized for the liberation of nerve motion, latent energy is generated and exists in a potential form, which in the absence of restraining condition is a counterbalancing energy developed in the centers or peripheral nerve expansion, with which any given point is connected by nerve fibers"

My conception, suggested by the structure and arrangement of neurons, and one which appears to be justified by the facts as far as we know them is, that associated neurons bear the relationship to each other of charged electric condensers A disturbance of potential in one can not take place without causing a correlated change in the associated ones This implies that the substance separating the associated neurons is of the nature of an insulator or non conductor That a substance differing in structure and function from that of the neurons does lie between them, and that this substance does not interfere with the action of one neuron upon its associated neurons are facts which we must recognize "In physics, proper, whenever there is a lack of continuity in the medium where energy is being transferred, there is a corresponding change in the form of the energy" (Dolbear) Whatever the nature of the energy that is developed in the neuron, it must undergo some modification in order to cross the interneural substance If a state of static tension in the neuron is created by the nutritive activities that are continually maintained within it—and of this there can be no doubt—then accompanying this static tension there will be set up in the environment of each neuron an inductive influence which, in a state of rest, will be exactly balanced by the opposing inductive influence emanating from associated neurons But where action takes place, as when the peripheral sensory neuron is disturbed in its molecular arrangement, and so in its static potential, by some impinging motion acting as a stimulant to it, then the inductive influence surrounding the disturbed neuron, and which envelops or extends into the field of its associated neurons, is correspondingly modified, and this modification in induction in turn acts as a stimulus to the central associated neurons It appears to me that the change which the energy undergoes in effecting its passage from neuron to neuron is of the nature of magnetic induction resulting from a change of static tension Chemic action, heat, pressure or mechanic movement, none of them seem so well adapted to effect the definite and prompt reaction that follows the disturbance due to a stimulus, as does energy in this form of static electric tension

My attempt has been to propose a theory which will not only account for the generation of what has been termed nerve force, but which will also account for its conduction in the neuron, and its transmission from neuron to neuron To do this I have sought to reduce to their simplest conceptions the physical and physiologic conditions present in the structure of the essential elements of the nervous system, and to state what appears to me to be the most probable physical results of such conditions consistent with the phenomena we observe In recapitulation The nutritive processes of the neuron, presided over by the nucleus, maintain the protoplasmic contents in that state of readiness for action which constitutes the primary or fundamental stage of all nerve function This creates in the neuron a condition of surface tension and of static electric potential, and is perhaps accompanied by some protoplasmic or ameboid movement

Each neuron in this state or condition has a restraining or balancing influence while at rest, upon all other neurons within its field of influence by reason of the energy exerted by it in the form of what is known as electro-magnetic induction

The end organs of the sensory nerves serve as avenues of ingress for such forms of motion as are attuned to their mechanism, and this added motion serves to create a molecular rearrangement of the nature of a chemic change in the protoplasm of the neuron, and this is accompanied by a change in the static potential

A change in the static potential is inseparable from a change in the electro-magnetic field surrounding the neuron, and this variation of the electro-magnetic field acts as a stimulus upon every neuron associated with the one whose end-organ has been excited

Thus conduction and transference of nerve force are, according to this theory, to be regarded as of the nature of electro-static phenomena

DISCUSSION

Dr Coe of Oregon—As I came in a friend of mine in another Section wanted to know where the Section on Neurology was to hold its meetings I told him in the Baptist church He said, "I think if there is any Section that ought to meet in the Baptist church it is the Neurological Section, because if any one gets into deep water it is the neurologists," and I think that this is entirely too deep for me to discuss at this time

Dr. D R Brower of Chicago—I am not equal to the discussion of this important question Some of the statements in the paper are facts, and these we all admit As to the theories therein, they are plausible and reasonable theories, and I thank Dr Herdman for the wonderful suggestiveness of his paper

Dr Searcy—I have been much interested in the paper on the dynamics of the nervous system It is one of the opening fields of medicine, and psychologic medicine especially The unit of life is the cell, and the unit of the nervous system is the nerve cell We are learning probably more of the action of the nerve cell in the neuron of the cortex than in any other part of the nervous system, because we find those cells more isolated and more easy of access in their structure, their function and their site As worked out of late, possibly we can say the dynamics of the neuron consist of the received motions, and adjusting its emitted motion to those received—which is a vital phenomena The way I have criticized nearly all philosophic theories along this line is that we attempt to describe animate phenomena by inanimate phenomena, for instance, describing the functions of the neuron by a reference to electricity We would simplify our work if we would describe vital motion by simpler vital motion, describing, for instance, the extremely complex nervous system of man by studying the movements in the lower organisms, in ameboids and protozoa, showing the movements in their simpler forms We can grade up the vital phenomena from that basis much better than we can by attempting to explain them by inanimate phenomena

Dr Adam A Ford of Denver—One suggestion came to me in listening to this very able paper, and that is with regard to the ultimate action of the molecule, or rather the atom in the molecule, affecting the neuron extremity The paper indicated a variety of different actions due to vibratory action up to a number of trillions Where can we differentiate chemic action from other action? Can we not trace it to the various forms of vorticular action in the action of these ultimate atoms? I believe it is one of the theories of scientists, now accepted, that this co ordinated form of action in the atom is vorticular action, and owing to the different formation of this vortex, together with its affinities, we have certain manifestations of power, of force Might not the author of this paper explain this theory, so as to include vorticular action?

Dr Meyer—I should like to ask Dr Herdman with regard to the conduction time The conduction time has been used in a great many of the du Beromo phenomena in nerve elements It seems, if I may trust my memory of physics, that the difficulty of meeting the objections rising from the conduction time become rather greater in the theory suggested, than even in the idea that was originally held by du Beramo

Dr Peterson of New York—The author has given a great deal of thought to this subject, and the critic of his paper should at least give as much time as he has to it The paper is purely speculative, but speculative papers, I think, always have a certain charm The theory advanced, in my opinion, is as reasonable a theory as ever given in neurol dynamics If I understood Dr Herdman rightly, it was based upon the installation and independence of the neuron That is by no means proved, and the most recent researches would tend to show that it is probably untrue However, theories like these are the tentacles of the scientific octopus, reaching out in every direction for truths, and therefore, are extremely useful

Dr W J Herdman—While, as has been said, such papers as this are largely speculative, my attempt has been to give a solid foundation of fact for the building up of those speculative ideas The question of vitality has been raised It is, as we all know, a very much debated question among physiologists at the present time as to whether all manifestations of vitality are not physical and chemic, that molecular arrangements have simply reached a certain stage when these are the natural outcome of the molecular and anatomic arrangement, and I must say that, from the recent investigations I have made on that subject, covering the last five years, the evidence is largely on the side of the man who holds what is called the mechanic view It is with relation to that view, and to making it bear on the side of neural dynamics, that this paper has been prepared I have not yet subjected the theory to the tests of nerve condition, as has been asked by Dr Meyer I have not conceived how it could be, or how the static condition of an individual neuron could be subjected to the test which has been made of nerve conductivity in the physiologic laboratory method, but some device, perhaps, can be arranged for bringing that under observation as well It has seemed to me that we must take into consideration what we know in physics and physiology, and bring this knowledge together, and see how the two will dovetail

---

UREMIC FOCAL LESIONS

Presented to the Section on Neurology and Medical Jurisprudence
at the Forty ninth Annual Meeting of the American Medical
Association, held at Denver Colo June 7-10 1898

BY H H HOPPE, M D
Lecturer on Nervous Diseases University of Cincinnati Medical
Department Neurologist to Cincinnati Hospital
CINCINNATI, OHIO

The literature on localized lesions of the central nervous system occurring as a result of uremic attacks is very scanty A diligent perusal of many American text books on general internal medicine, as well as the text books on nervous diseases, fails to find mention of the subject at all

It is true that compared with the multiform manifestations of uremia, especially compared with the frequency of convulsive attacks, the paralytic attacks occur very rarely, or, perhaps, it were better to say, are rarely recorded and this is probably due to the peculiar character of the paralytic attacks and to the rapidity with which the manifestations disappear The study becomes all the more interesting because of the light which the subject seems to throw upon the nature of other central disturbances of the nervous system If the advance in our knowledge of medicine has been marked in the past quarter of a century in any one particular direction it is in that of the somatic origin of the various forms of insanity and of the ordinary diseases of the nervous system, in other words, that the intellect or the soul itself is never affected, but that its disordered manifestations are due to a diseased condition of the media through which it acts The first successes, among which we may mention Mendel's classic demonstration of the pathologic conditions underlying dementia paralytica were followed by countless endeavors in all parts of the world to establish the relation between diseased conditions of the brain and the disordered manifestations of cerebral activity The results, as regards cerebral localization and mapping out of areas of the cortex, with their distinct functions, both sensorial and motor, have, as you know been crowned with brilliant success It, however had a tendency to narrowing our conception of nervous diseases, by referring, or trying to refer, all disordered conditions of the nervous system, psychical, sensorial and motor, primarily to the brain or spinal cord We know today that the anatomic investigation of the majority of insanities and of all the so called functional diseases of the nervous system has met only with signal failure

It may be held that this failure is due to the inefficiency of our physical and chemic means of investigation, but the probabilities are that we will have to go back to the old clinical methods of investigation to study the human body in life as well as the organs after death To look upon sickness, no matter what its character may be a manifestation of a disordered condition of the whole body rather than a disorder of the function of one particular organ In the light of recent investigations, especially of the functional diseases, we know that the brain and spinal cord are often more sinned against than sinning and that a remedy for the relief of the functional affections is more often to be sought in correcting a disordered condition of blood stomach, intestines, thyroid gland and kidneys, rather than of the brain Bouchard, in his well known publications on autointoxication, started the pendulum to swing away from anatomic investigations of the brain in functional diseases to the study of diseased manifestations of the more distant organs of the body More beautiful and more classic disturbances of the functions of the central nervous system can not be found than the investigation of the nervous arrangements found in uremic intoxications

I have purposely waited a very long time before publishing these cases, because I wished to be sure of the diagnosis We know only too well how our most interesting and rare cases are cleared up and relegated to the classes of common diseases by time, which as a rule, shows us that that which we looked upon as a rare or extraordinary occurrence or disease was only an ordinary symptom out of time and place

Case 1 —Uremia in which the first symptom was aphasia which continued half an hour, followed by a convulsion and hemiplegia of the right side, with complete recovery in twenty four hours Mrs C K——, aged 62, married, mother of five children No miscarriages, no history of syphilis Patient, who is very heavy, had never been sick before At noon, Nov 12, 1895, while at dinner, in the best of spirits, and with a good appetite, she suddenly quit eating in the midst of her meal, attempted to speak, then muttered some unintelligible syllables, grew very much excited on account of her inability to speak, arose from the table and walked about the room On account of her unintelligible jargon the family thought that she was delirous and had suddenly become insane She could not make herself understood, was unable to answer the excited questions put to her, and on my arrival, about half an hour later was much excited, tried to speak but could not form her words She stated afterward that she knew perfectly well what she wanted to say but could not express her ideas in words Her face was flushed and congested, the pulse full, hard and rapid No vertigo no vomiting, no difficulty of breathing I obtained a specimen of her urine and after ordering a purgative by mouth and enema put patient to bed On returning after about an hour, after making an urinalysis I found her unconscious and in a violent convulsion The convulsive movement, however, was limited to the right side Respiration stertorous, face deeply congested the left side flabby and relaxed, the right in a state of clonic convulsions, the left arm and leg were perfectly flaccid and relaxed After cessation of consciousness the right arm and leg were completely paralyzed A hot bath was given, profuse perspiration ensued on use of pilocarpin, diuretics and saline purgative In about an hour consciousness returned, but patient was unable to speak The paralysis of arm, face and leg was complete on awakening About 6 P M patient began to talk, but not perfectly, still enough to make herself understood In the course of the next few hours slight movement returned, and in twenty four hours speech, as well as use of arms and legs was again perfect In two or three days the patient was able to be about Was placed on a strict diet and treated with alkalines, baths and cathartics The quantity of albumin gradually diminished, but never disappeared entirely After eighteen months patient is still well, no recurrence of uremia or paralysis Albuminuria still present, quantity very slight One interesting point about this case is the double focal lesion—the left third frontal convolution and the right psychomotor area

Case 2 —June 15, 1896, Mr H , aged 61, married Parents both died at an advanced age, presumably from bronchopneumonia Has not been sick from childhood Has been a hard worker all his life, doing the work of a molder While eating dinner, just at the commencement of the meal, patient suddenly lost consciousness, his head sank on his breast and he fell forward slipping out of his chair on to the floor He was immediately picked up, and regaining consciousness in a few moments, was supported to the next room and laid on a bed The family noticed that his face was drawn to the left side and that he made no use of the right arm or leg There were no twitchings or convulsions of any kind I arrived on the scene a half hour after the onset of the attack Examination Patient is still in a semi unconscious condition , can be aroused however, and is able to assist at the examination Pupils are normal in size and respond to light, both sides are equal, ext muscles of both eyes are normal in their function The right side of face has lost its expression, the naso labial fold is absent on opening the mouth The left angle is drawn upward The tongue is protruded to the left No loss of sensation in region supplied by fifth nerve The right arm can scarcely be moved there is not a complete loss of muscular power, but the grasp of the hand makes scarcely a perceptible impression The movement of the right leg is good, but there is scarcely any motor power Reflex of right leg very much diminished No loss of sensation of either arm or leg The examination of urine revealed the presence of albumin Purgation and sweating On my return, in three hours I was surprised to see the muscular power of the leg normal that of the arm greatly increased On the following morning the paralysis had entirely disappeared

Albumin remained in urine for about four months Patient was treated by alkalines and a non nitrogenous diet For past eighteen months the urine has contained no albumin at all, and the patient considers himself entirely well

Case 3 —This case shows one of those variations of focal lesions in which the paralytic onset occurred independent of an attack of uremic convulsions It is true that the diagnosis is somewhat in doubt. The apoplectic attack may have been caused by an embolism or a hemorrhage from a small artery in the neighborhood of the internal capsule In my opinion, however, the paralysis was, at first so complete and the recovery from it so rapid and complete that I have no doubt but it belongs to the category of uremic hemiplegias J P , Grand Rapids, Mich , aged 55 unmarried No history of nervous trouble in the family Has never been sick, nor nervous Dec 5, 1897, at 9 30 P M patient, while playing cards, suddenly noticed that he could not use the right arm A few moments later, while standing on the floor, he sank and would have fallen had he not clutched the table with left hand The face became distorted at the same time by the loss of use of right side No diminution or loss of consciousness no loss of speech Patient was taken home at once in a cab Physician called and diagnosed right sided hemiplegia, with involvement of face   Urinalysis showed presence of large quantity of albumin   The attack was sudden, preceded only by violent frontal headaches of some weeks' duration   Regained use of arm in a few hours, and in twelve hours the recovery was complete   Use of leg regained in twenty four hours   Six weeks after attack patient came to Cincinnati   The examination of nervous system was entirely negative   The examination of the urine showed the presence of 2 per cent of albumin, large numbers of hyaline and granular casts   The case has been under treatment for Bright's disease for four months at the Good Samaritan Hospital   No uremic symptoms have shown themselves in this time   Quantity of albumin and number of casts remain the same

Case 4 —The following case seems to bear out the theory that some local predisposition is necessary for the development of the paralytic attacks, some cause present in the center or area of the cortex which renders this center more liable to be attacked by the poisons circulating in the blood during an uremic attack rather than the other parts of the surface

Mrs F , aged 64, married, mother of seven children, all healthy, slightly nervous in temperament   Has never been sick before the development of Bright's disease some years ago   Was treated for arteriosclerosis and fatty degeneration of the heart for past three or four years   I saw patient first in January, 1896   Will not burden you with the text of examination except to tell you that she presented a typic fatty heart with well marked arteriosclerosis   The urine on examination, dark in color, s g 1014, 2 per cent of albumin, no sugar   In August, 1897, patient had a sudden attack of apoplexy, involving external recti of both eyes, especially of the right eye   The right side of face and tongue were involved   Complete loss of power in right arm and right leg, partial paresis of left leg

Diagnosis   Acute bulbar paralysis, due to thrombosis of a branch of basilar artery in the upper part of pons   Patient gradually improved, and after three or four weeks was able to walk about, although with much difficulty   The arm recovered completely, the right side of face and tongue, as well as the right external rectus, have not recovered after a lapse of two years   On Feb 12, 1898, was called to see patient   The attendant nurse stated that she had not been as well as usual for a few days, that she had had attacks of vertigo and felt sick at stomach, that she had been somnolent all morning and had not been able to move the right arm and leg at all

Examination   Patient is in a stupor and can not be aroused sufficiently to assist in the examination   The pupils are contracted and equal in size   Unable to examine external muscles of eyes on account of coma   Constant twitching in the left side of face, loss of sensation of left side of face   The left arm and left leg are in a constant state of clonic spasm, the spasms are small in excursion and momentary in duration, following each other very rapidly   These spasmodic attacks have recurred three or four times in the course of two hours, an interval of fifteen minutes probably between each attack   During the interval the left arm and leg are seen to be completely paralyzed   The muscles are flaccid, relaxed, the limbs fall by their own weight without any resistance on part of the muscles, patellar reflex absent, sensation can not be examined into on account of presence of coma, right arm and leg normal

Treatment   Purgatives, profuse perspiration induced by heat, applied by using hot water in rubber bags   Consciousness returned in about an hour   The diagnosis of left sided hemiplegia confirmed by patient's inability to use the arm or leg   The paralysis of the arm and leg disappeared in four or five hours   On the next day the patient was in her usual condition   April 16, 1898, patient again had an attack of uremic coma, with left sided hemaplegia, and again recovered as in previous attack

A CLINICAL STUDY OF UREMIC PARALYSIS

The four above-mentioned cases represent, with but slight exceptions, the clinical aspect of uremic paralysis, and we may draw up in a concise manner the clinical picture of this trouble

The prodromal symptoms —While the uremic focal disturbances seldom occur without premonition, we can hardly claim that it has any premonitory symptoms of its own   The onset of the attack is sudden, being either the ordinary uremic convulsion or a sudden attack of aphasia, Jacksonian epilepsy or paralysis, with or without convulsions or loss of consciousness   The premonitory symptoms are rather those of Bright's disease, uremic manifestations of a disordered function of other organs of the body, or there may be general cerebral disturbances, such as headache, vomiting and vertigo, or localized edemata, which are manifestations of a general uremic condition   The uremic attack as such may be typic in its character or it may not be

During an attack of uremic convulsions with loss of consciousness, heavy stertorous respiration, a full, bounding pulse and contracted pupils, the convulsions may suddenly cease on one side and continue on the other, the limbs in which the convulsions have ceased become flaccid, the muscles become relaxed and when lifted up and allowed to fall, drop in the direction that the force of gravity dictates, muscles offering no resistance whatever to the falling of the limb   The tendon reflexes are usually absent, there is very often a complete loss of sensation in the affected limbs   The face often becomes distorted by the convulsions of the muscles opposite to the paralyzed side, the mouth becomes drawn over to the side free from paralysis, while the cheek on the paralytic side becomes distended by each expiration   Boinet lays down the rule that the uremic hemiplegia coincides always with the uremic coma, and that it disappears when the coma disappears   While this is the rule, we know from the study of reported cases that there are very frequent deviations from it   In the typic cases, it is suddenly noticed during the progress of uremic convulsions that one side of the body is stricken with paralysis in the manner above described   This hemiplegic attack continues during the entire uremic convulsion, and if the outcome is fatal the paralysis is present up to the time of death   If the uremic attack yields to treatment, the hemiplegia sometimes disappears as soon as a patient regains consciousness   In other cases the paralysis rapidly diminishes and in a few hours the muscular power is completely restored   Dr Rose of Berlin states that these attacks can occur like ordinary apoplectic attacks, after a good night's rest the individual awakens in the morning to find himself paralyzed   Only in very rare instances does the hemiplegia last longer than twenty-four or forty-eight hours

In rare instances, as Case 3 illustrates, the hemiplegia may begin and become complete while the patient is in full possession of his senses, and the attack is not followed by coma   Case 2 illustrates a mode of onset also rare, in that the coma and hemiplegia occurred simultaneously without being followed or preceded by uremic convulsions   The paralysis has all the characteristics of being cortical in origin   In the beginning, perhaps but for a few minutes, it is complete, but rapidly gives way to paresis   The chief characteristics of the hemiplegic attack are the flaccidity of the muscles and the rapidity with which the paralysis disappears   Boinet states that another of its characteristics is its variability   It is complete in the morning, diminishes at night and increases again in intensity a few hours later   Lancereaux reports a case in which the hemiplegia occurred first on one side of the body, disappeared, and then occurred on the other side   Case 1 is similar to this, aphasia occurring first in a right-handed woman, and during the uremic convulsion which follows there is developed a left-sided hemiplegia

It is probable that cases where the paralysis was of long duration and those that were followed by contractures were due to localized hemorrhages in the cortex

The paralysis of the facial muscles may or may not be present in these uremic hemiplegias, and when it is affected it follows the laws of cortical facial paralysis, namely, the lower half of the face alone is involved. Raymond reports a case attended with ptosis. Passing amaurosis is common. Bernard, Chauffard, Raymond, Chantemesse and Level report cases in which the hemiplegia was associated with conjugate deviation of the head and eyes. Aphasia occurring with right sided hemiplegia is quite common, but occurring alone, or as in Case 1, occurring in a right-handed person with left sided hemiplegia is very rare. In all four cases which I have recorded, at the time of the examination there was an absence of the loss of sensation. Boinet, however, states that there is habitual association and hemianesthesia with the hemiplegia, and that this hemianesthesia has all the characteristics of being cortical in origin. It is always incomplete and exceedingly transitory, often disappearing before the disappearance of the paralysis. Raymond reports one case in which the anesthesia affected the entire body, another in which the conjunctiva and the mucous membranes were anesthetic.

It is possible that at times also the anesthesia may affect the special senses, as Boinet's case, where the sense of hearing was lost for three weeks.

The prognosis as a rule is bad, the majority of the cases reported were fatal.

The hemiplegic attack itself does not offer a bad prognosis. The prognosis depends upon the severity of the uremic attack, and in my opinion the presence or absence of hemiplegia does not have any influence on the prognosis of the attack, the hemiplegia disappears simultaneously with it or it rarely lasts longer than twenty four hours. The second of the cases reported in this paper is completely cured, the hemiplegia and the kidney trouble having completely disappeared. I do not believe, however, that there is any relation between the intensity of the renal disturbance and the cerebral symptoms, in this sense, that the most severe forms of uremic convulsions are apt to be followed by cerebral symptoms due to some inherent localized weakness in the cortex of the brain. It seems that the cases that are associated with high temperatures are apt to be fatal. Conjugate deviations of the head and eyes are also unfavorable symptoms.

The diagnosis is very easy, if the examination is carefully made. While it is true that ordinary apoplectic attacks caused by hemorrhage in the brain or by embolism in the cerebral arteries may be accompanied with epileptiform convulsions, an examination of the urine will clear up the diagnosis by demonstrating the presence of large quantities of albumin in the urine. We must not forget, however, that patients with Bright's disease, especially those with interstitial nephritis have as a rule arterial sclerosis and may have an attack of hemorrhage into the brain during the uremic convulsions, which may give rise to hemiplegia during the comatose state. The variability and the flaccidity of the paralysis, the normal temperature and the rapidity with which the paralysis disappears, will enable us to make the differential diagnosis. It will not be so easy, however, to differentiate the purely functional cases of hemiplegia from those due to minute hemorrhages into the cortex (Senator).

A very interesting feature of uremic focal manifestation is the occurrence of localized Jacksonian epileptic attacks. When we take into consideration, as we shall see later, the entire absence of any organic change in the cortex, this feature becomes all the more interesting, because of the almost universal association of an organic focal cortical lesion with the occurrence of circumscribed epileptic attack. Chantemesse and Tenneson, Chauffard and others have reported cases of this kind with autopsies, Dunin five clinical cases, Boinet one. In some of the reported cases the epileptic convulsions occurred during an uremic attack and in others preceded such an event or occurred entirely independent of a generalized intoxication. In Boinet's case four distinct and separate attacks occurred without the attack being followed by paresis. After the fifth attack, however, the hemiplegia set in. The above cited cases, and there are still more in literature, are pure cases of Jacksonian epilepsy. Case 3 in the present report presents a localized epileptiform seizure, but convulsions were present in the paretic extremities.

CAUSATION

The real cause of these attacks is, as a matter of course, the uremic condition. As to the proximate cause the authorities are divided. Most individuals afflicted with Bright's disease are subject to arteriosclerosis, and Senator holds that very often these focal disturbances are due to capillary hemorrhages. This opinion is shared by Wagner and Landois. That this may be true for some cases, especially those in which the paralysis does not disappear rapidly, can not be denied. But the autopsies which are on record seem to disprove this theory. Another theory advanced by Landois is that the paretic manifestations are the results of an exhausted condition of the cortical centers resulting from over irritation resulting from the uremic excitation and subsequent convulsions. This theory, however, fails to explain the causation of those cases in which the Jacksonian epileptic attacks, the paresis or aphasia precede the uremic attacks or occur in uremia in the simple condition of coma.

There are but two possible explanations remaining: one is the toxic theory, and the other the theory of localized cortical edema of Traube. Traube's theory is the theory which ought to explain the occurrence of uremic convulsions in a mechanic way: as a result of edema of the brain there is produced a pressure upon the veins and capillaries which results in an anemia, consequently in a diminished supply of oxygen, and as a result we have the convulsions. Rosa (*Berlin. Klin. Woch.*, Feb. 28, 1898) seems to think that it may possibly explain the focal symptoms of uremic attacks. Chantemesse and Tenneson seem to hold the same opinion, and Senator says that, "localized and circumscribed edema may explain the origin of uremic amaurosis and hemiplegia." The majority of authorities are agreed, however, that the uremic condition is the result of an autointoxication, and that the real cause of the manifestation is a chemic poison—urea, aceton or whatever it may be—which irritates the brain and produces the symptoms. But how does this bring us any closer to the answer as to how the focal symptoms are produced? We are once more thrown back on theory, for pathology reveals nothing to us. We know that certain parts of the cortex are more subject to the action of the chemic poisons than others, but if we wished to apply this to uremic conditions then the focal lesions ought to be constant, occurring in every case of uremic convulsions We can fall back on the old theory of individual idiosyncrasy, but it does not aid us much Pierret and Senator hold that there may be circumscribed disturbances of circulation, a spasm of a vessel in a localized area of the cortex, resulting from some diseased condition of that vessel, such as arteriosclerosis As a result of this spasm produced by the toxic condition of the blood, there is a localized ischemia with a subsequent paretic dilatation, stasis of blood, edema and intoxication of the cortex Assenting to this theory, those areas of the cortex would be most likely to suffer which are supplied by vessels in a state of degeneration

Baynaud and Pierret hold, and our Case 3 seems to bear out the statement, that focal manifestations due to old brain lesions, which, however, have disappeared, are apt to return as a result of all kinds of systemic infections and intoxications and especially in uremic conditions, which would seem to prove that areas of the brain weakened by some former insult and apparently recovered again, are more susceptible to intoxication than other areas which are normal

PATHOLOGY

The anatomic investigations of the fatal cases fail to throw much light upon the etiology of these attacks They all agree in one respect, namely, that there are no gross anatomic lesions to be found in the brain or spinal cord Prior to 1881 it was supposed that the hemiplegia occurring during uremic convulsions was always the result of a cerebral hemorrhage Paetch, about this time, reported three cases in which the hemiplegia continued up to the time of death, and in which the autopsy was practically negative In one case he reports the presence of an excessive amount of cerebro spinal fluid and edema of the brain in another the brain was perfectly normal The former autopsy was made by Israel, the latter by Jurgens Paetsch, who holds the theory of localized edema and serous infiltration, lays much stress upon the occurrence of the edema, but we see edema of the brain quite frequently without any paralytic symptoms during life Dunin publishes another case which presented during life nystagmus diplopia and hemianopia, in which the anatomic examinations, both gross and histologic, were entirely negative It is interesting here as a collateral proof of the intoxication theory of these focal lesions to refer to two published by Oppenheim (*Charité Annalen*, 1888)

The first case was one of hemiplegia with aphasia, the other a typic case of Jacksonian epilepsy, both being associated with carcinoma, one of the breast the other of the stomach It was supposed during life that the occurrence of the manifestations on the part of the nervous system were due to the occurrence of metastatic growths in the brain The autopsies were entirely negative, no changes were found in the brain The author believes that the attacks were due to intoxication, and that poisons may affect circumscribed areas of the cortex of the brain

BIBLIOGRAPHY

Carpentier Presse Méd Belge 1880
Paetsch Zeitschr für Klin Med, 1881 vol iii p 209
Jaeckel and Raymond Rev de Méd, 1885
Chantemesse and Tenneson Rev de Méd Nov, 1885
Sancereaux Union Medical, 1887, p 703
Seral Contribution a l'Etude de paralys Uremique Paris 1888
Chaufford Arch Médecin July 1887
Dreyfus Brissac Gaz Hebdom Méd, July 20, 1888
Boinet Rev Médicine 1892
Dercum Trans Phila Neurolog Soc, Oct 24, 1888
Dunin Berlin Klin Wochenscrift
Rose Berlin Klin Woch, Feb 28 1898
Oppenheim Charité Annalen 1888

DISCUSSION

Dr Sexton—I think the considerations which were brought forward in the latter part of Dr Hoppe's paper lead us really toward the truth in regard to the theory of most of these cases which he is inclined to classify as of uremic origin when hemiplegia is present It is not quite clear to me how we can have a condition which must necessarily depend upon a local lesion in the brain, without that local lesion ever being demonstrable, and I think that the history of these cases as mentioned is somewhat negative in that direction What I mean to say is that we can scarcely see the mechanism of the poison which is supposed to produce the hemiplegia My own opinion would be that the great majority of these cases really depend upon a local hemiplegia, a rupture of minute vessels, in which the absorption of the clot is so perfect that after death the autopsies do not give any evidence of its existence I do not think there is any doubt that we have many cases of hemiplegia which are due to small hemorrhages *The fact that a quantity* of uric acid is found in the urine I do not regard as conclusive, because, as Dr Hoppe mentioned, the condition of the kidneys favor these ruptures, and it is more plausible to explain the existence of the hemiplegia upon that hypothesis than upon the hypothesis that a limited area of the brain should be poisoned by the uremia, while the remainder of the brain escapes I have seen a number of cases in which there was a transient hemiplegia, and a certain portion of these cases have albumin in the urine, and yet I was never able to satisfy myself that the presence of Bright's disease was the cause of the hemiplegia

Dr Lodor—It has been my good fortune or misfortune to see a great many cases of hemiplegia that I believe are uremic in their origin I cannot believe with Dr Sexton that there is an organic base for the origin of them Uremic hemiplegia following childbirth is more common than most neurologists know *Following in the course of Bright's disease I have* noticed those cases that have a rise of temperature—and a rise of temperature is almost entirely secondary—do not get well rapidly or get well at all In cases that have no rise, or a small rise in temperature, the hemiplegia disappears quickly after the disappearance of the albumin I cannot see how a hemorrhage could take place from a ruptured blood vessel and disappear almost as if by magic, as these cases do

Dr Tomlinson—I would like to add the evidence of my experience to confirm the conclusions of Dr Hoppe's paper and to call attention to three cases published by Dr Burr of Philadelphia, in which the history was the same, and which appeared to be apparently true hemiplegia, and yet in which the autopsy showed nothing In the last year I have had four cases which came to postmortem, and all these cases were cases of interstitial nephritis, with the same symptoms manifested as those described by Dr Hoppe One thing I noticed particularly was that the paralysis was not complete, that there were some groups of muscles that were not involved, and that it appeared and disappeared in different parts coming and going from time to time The face and the limbs would be paralyzed, the paralysis would disappear from the arm and become more grave in the face and vice versa I can also confirm the prognostic effect of the rise of temperature, it has been the same *in my own experience* *Another thing I have* noticed in these cases postmortem, has been the intense edema of the floor of the fourth ventricle I have concluded that the cause of death in these cases has been the result of this edema, from the uremic poisoning In my own cases I was able to know of the existence of the nephritis for a long time before the paralysis appeared, and by careful examination to find all the indications of chronic nephritis. Since I have become familiar with them I have been able to almost anticipate these cases and to know what the result will be according to the extent of the nephritis The recovery of the cases will depend entirely upon the stage of the nephritis On postmortem, in spite of the most careful study, I have never been able to find any local lesion or disturbance to account for it I have not made up my mind entirely as to vasomotor edema or vasomotor spasm I am disposed to think there is a spasm which temporarily deprives that portion of the brain of blood

Dr Eskridge—I rise mainly to call attention to the differential diagnosis of Jacksonian epilepsy due to organic lesion from these spasms, due to presumed functional disturbance of the cortex When we have an organic spasm in the cortex, the muscles involved in the spasm are the last to be affected The temperature is always high on the affected side, and the patient loses consciousness I have not met a case of spasm, due to uremic poison, in which there has been much difficulty in making the diagnosis between that and a limited cortical lesion I have met with cases in which I was able to make an absolute diagnosis as to whether the paralysis was due to organic lesion or some functional disturbance As we all know, a few hours' waiting clears the diagnosis in these cases As a rule, in organic lesions of the cortex, only those muscles affected in the initial spasm will be paralyzed after the convulsion is over In paralysis due to the effect of a poison, in nephritis and hemiplegia, paralysis of one arm and one leg is common

Dr C **Eugene Riggs** of St Paul—I think that Dr Hoppe is to be congratulated on the exceedingly happy way in which he has put this very practical subject before the Section I am inclined to believe, however, that there is a golden mean that Horace tells about, in which we can probably take a safer position than by saying dogmatically that these are simply due to toxemia, or simply due to hemorrhage I confess to great sympathy with Dr Sexton's view We know that one third of the cases of organic hemiplegia are probably due to Bright's disease, we know that Bright's disease produces hyaline degenerative changes and slight pressure will cause this disaster But we also know that the resulting phenomena depend entirely on the location of the hemorrhage We all have seen these limited aneurysms in the brain, and if one of these aneurysms happens to break, the first effect is insult to the brain, in which you will find certain phenomena described by Dr Hoppe, while in a very short time that will all pass away I think that death may not only be due to the influence of uremia—you have all seen poisons so extremely toxic as to cause death in a short time—but it may also account for the temporary phenomena of paralysis That seems to me a thoroughly clear and legitimate conclusion As soon as the kidneys act thoroughly and properly the paralysis will clear up While the uremic toxemia may account for a number of these cases, still there are a number of other cases due to hyaline fibroid degeneration of the brain

Dr C C **Hersman** of Pittsburg—I can scarcely conceive the idea that these paralyses are caused by hemorrhage In one case that I saw, some time ago, the paralysis was so profound that I was almost persuaded to believe it was a genuine attack of apoplexy, but the clearing up was very rapid, only lasting a few hours My surprise was, not that it cleared up so soon, but that it was so complete It seems to me that if a lesion were present, we could scarcely expect such rapid recovery It is possible, however, that a miliary aneurysm occurring, the profound shock to the part might be the cause of paralysis, and on recovery from the shock, the lesion not being extensive enough to cause a destruction of tissue would answer for the cause and the rapid disappearance The theory as to vasomotor disturbance has been disputed by many, in fact, all the theories that I have seen suggested have been disputed by others Consequently we can not say that we have any definite conclusion that we can hold to, but I am inclined to think that the cause is not a lesion or a hemorrhage, any more than it is in the case of epilepsy, or any other convulsion which we might have that is not caused by hemorrhage

Dr **Heins**—I have noticed that the gentleman in speaking of these cases spoke of them as rather milder cases, and therefore allowed the possibility of recovery in that way They speak of the percentage of albumin A case of nephritis is not measured entirely by the amount of albumin that you have If the gentleman says that 2 per cent of albumin shows a small kidney lesion, then I would like to ask him what would be a larger percentage? I do not wish to be critical, but it strikes me it is a matter of some importance It seems to me, too, that it is a bad thing for practitioners of medicine to cast away their anchors, and when you have, as Dr Sexton has mentioned, an actual lesion that is the probable cause, to throw it aside It is better to reason it out that way, than to say that there was no hemorrhage, because then you simply have no cause at all

Dr **Hoppe**—In answer to Dr Hein's question about the percentage of albumin, as a rule the prognosis of kidney trouble is inversely to the amount of albumin present, the most fatal cases of interstitial nephritis being those that have the smallest percentage of albumin Sometimes men will die without the urine showing any albumin So the amount of albumin present does not have any bearing on the severity of the attack or the prognosis The only difference about the paper seems to be as to the immediate cause of the condition in the cortex We have actual facts at our disposal and autopsies which have been performed by the best men in the world I would call your attention particularly to the autopsies made by Jurgens and Israel in Berlin, not only did they make gross pathologic examinations, but they made histologic examinations, and not any trace was found of any change in the cortex This is the history, postmortem, of all the cases in which the hemiplegia continued up to the time of death When the Traube theory of localized edema was still in vogue some of the autopsies showed edema of the brain But we know that we find edema even in the brains of drunkards without having any symptoms of paralysis during life

---

OCULAR HEADACHES

Presented to the Section on Neurology and Medical Jurisprudence at
the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY WILLIAM H WILDER M D

Professor of Ophthalmology Chicago Policlinic Instructor in Ophthalmology Rush Medical College Surgeon and Pathologist Illinois Charitable Eye and Ear Infirmary Ophthalmic Surgeon
Cook County Hospital

CHICAGO

This subject is such a large one, and the views and experiences of ophthalmologists as to the rôle played by the eyes in the causation of this important symptom are so diverse, that it is difficult to give it the careful consideration that it merits in the short time allowed When we reflect upon the mysterious character of headache and the unsatisfactory explanations advanced to account for it, we can understand the difficulty the ophthalmologist encounters when he attempts to give a reason for the faith that is in him, and to correctly interpret his clinical data Even the exact seat of the pain is not known Who can say whether it is in the brain itself or in the membranes covering it? In acute inflammation of these membranes it is quite probable that the severe headache is caused by the irritation of the meningeal nerves, but that is entirely different from the functional affair we are considering

Just what influence vascular dilatation exerts in the production of this neurosis is equally uncertain If it should be true, as claimed by some observers, that sensory nerve fibers exist in the vessels of the brain, we could understand how distention of these vessels would give rise to pain, even without the increase of intracranial pressure It is not improbable that the congestion of the mucous membrane lining some of the accessory cavities of the nose is accountable for many of the frontal headaches coming on after excessive use of the eyes, and this view is strengthened by the clinical observation that such cases are relieved only when, with the correction of the ocular defect, there is combined suitable treatment for the diseased nasal mucous membrane That there are headaches induced by eye strain is undeniable and the discovery that the relief of the strain is followed by alleviation of the pain marks a brilliant advance in our therapeutics

Notwithstanding that other general conditions may underlie the development of this neurosis and the ocular condition may be only one factor still its presence may for the time be a dominant one whose correction will strongly influence the future history of the case And should the headaches recur at some time subsequent to the relief of the eye strain such recurrence would not disprove the value of the treatment but would prove that some of the other underlying conditions had become dominant factors Such complex cases are not infrequent and show the importance of careful examination of the eyes in all cases of headache in which there is any doubt as to the etiology

In most cases of so called ocular headache there is a history of the pain coming on after either erate or excessive use of the eyes for near work, but to this rule there are numerous exceptions For example, some cases of excruciating vertical or occipital headaches coming on without any reference to the use of the eyes are relieved after wearing appropriate glasses One cannot be certain therefore that no ocular defect exists because pain does not manifest itself in the eyes, or because headache does not come on with or immediately after the use of them I shall not consider headaches occurring in connection with inflammatory conditions in or about the eye, for this would be foreign to the purpose of the paper, but shall speak only of those caused by 1, exposure to bright light, 2, strain of the ciliary muscle (so-called accommodative asthenopia), 3, strain of extrinsic muscles from incoordinate action (the so called muscular imbalance)

EXPOSURE TO BRIGHT LIGHT

Cases are not infrequent in which there seems to be a hypersensitiveness of the retina, which may or may not be associated with other nervous manifestations, and in such cases there may follow on exposure of the eyes to bright light a pain in the head or in the back of the eyes With such persons a headache results when they look continuously at brightly illuminated and glistening surfaces, such as paintings in a picture gallery, a brightly illuminated page, especially if the paper is finely glazed, or if they are exposed to the glare of the snow or of a white, dusty road The light from the electric lamps also seems to be peculiarly irritating to some eyes, and sufficient at times to excite a headache In many such cases an examination will show some refractive error causing strain of the accommodation, which will aggravate the difficulty, but in others no such trouble can be found, or the symptoms persist after the correction of such a defect so that we are forced to conclude that excessive irritation of the retina will act as a cause of headache,

Of course, such hyperesthesia of the retina might be a precursor of inflammatory change, in which case a slight congestion of the vessels in and around the optic disc and the yellow spot would be noticed But in many the ophthalmoscope reveals no such sign of inflammation, while occasionally there is seen only on careful focusing, a peculiar finely dotted appearance of the retina in the region of the macula lutea, very much as if a mixture of pepper and salt had been sprinkled on it Whether this represents a beginning pathologic change in the elements of the retina, or is the normal appearance of a retina that is unusually sensitive I do not know

STRAIN OF THE ACCOMMODATION

This is the most important and frequent cause of ocular headaches When the normal emmetropic eye looks at an object more distant than 20 feet, the rays of light from that object are brought to a focus on the retina and produce a clear image without any effort on the part of the muscle of accommodation If the object is nearer than 20 feet, rays of light emerging from it will not be focused on the retina of the emmetropic eye without the aid of accommodation, and the nearer the object is brought the more accommodation will be necessary At 20 inches 2 D of accommodation are necessary, at 10 inches 4 D, at 8 inches 5 D, at 5 inches 8 D and so on

This accommodation is accomplished, as we know, by a change of shape in the crystalline lens, brought about by the contraction of the ciliary muscle, and if this contraction is excessive there results a strain of this muscle, and even in certain cases a spasm of it, with resulting discomfort and sometimes headache Children often contract a pernicious habit of sitting in a crouched position with the head bent forward close to the book, thereby putting a great strain on the ciliary muscle, and on account of the compression of the superficial veins of the neck, producing a congestion of the head which may lead to the development of myopia or even more serious complications Often such children are precocious subjects—inordinate readers, as their parents will tell us—and of a nervous, restless temperament, and they are frequently brought to the specialist for eye-ache and headache In some of them no error of refraction is discoverable, or the error is so small as to be quite insignificant, and they are benefited by correcting the method of reading and having them use the eyes less for near work

The hypermetropic eye, by reason of its antero posterior diameter being too short, is unable to focus parallel rays of light upon the retina, and accordingly accommodation is necessary to see even distant objects distinctly This places an additional amount of work upon the ciliary muscle, and if astigmatism is also present, the strain is even more severe, for the muscle is constantly trying to correct the unequal meridians of curvature of the cornea, and is therefore contracting unequally Such an eye is using its accommodation constantly, even for distant objects, and the work of the ciliary muscle is necessarily much greater when near objects are to be seen distinctly In such a case the ciliary muscle undergoes to a limited extent a compensatory hypertrophy, and is able for a time to do the work assigned to it But let its nutrition suffer because of impairment of the general forces of the economy, and that work becomes a burden that formerly was done with ease, and the unhappy subject is made aware of the presence of his eyes Or if additional demands are made upon the accommodation, as for continuous reading, writing, or sewing, the muscle is found unequal to them, and pain is felt not only in the eyes but in the head This is noticed also when the attention is closely fixed upon distant objects Astigmatics frequently complain of headaches after going to the theater, or when traveling and looking at the passing landscape, or after a round of shopping

In London they speak of an "Academy headache," the result of gazing intently at pictures during the exhibition Such a headache may be partly due to the glare of the light from the brilliant colors on the canvas, and partly to the physical exhaustion incident to the loitering through a picture gallery

Even slight degrees of astigmatism may be sufficient to cause considerable eye-strain under such conditions, particularly so if the astigmatism is of the oblique variety, in which the principal meridians of curvature of the cornea are no longer horizontal and vertical The ciliary muscle seems to find greater difficulty in overcoming this kind of astigmatism

When the individual is in perfect health he may be able to overcome a very considerable refractive error without experiencing any ocular distress, but if for any reason his vitality becomes impaired—particularly his nervous vitality—then he feels the additional strain, which may manifest itself in headaches This is very noticeable in patients having hypermetropia or astigmatism who are recovering from some severe exhausting disease, in young persons at the time of puberty, and in persons suffering from neurasthenia A good illustration of this is to be found in a case of paresis or paralysis of the ciliary muscle following diphtheria Even after the muscle partly recovers its power, it is very weak and easily becomes fatigued with slight accommodative effort, much more so if it has to overcome also a refractive error of hypermetropia or astigmatism, and this manifests itself by reflected pain in the head

MUSCULAR INSUFFICIENCY

We now come to the third cause of ocular headaches—the strain of the extrinsic muscles from lack of balance, so-called "muscular insufficiency" or 'muscular imbalance" This term assumes that one or a group of the eye muscles is too weak for its opponent, and there is therefore a tendency for the optic axes to deviate from the normal This usually concerns the recti muscles, and of these the internus and the externus are the ones most frequently affected, although the superior or inferior rectus may show signs of weakness, and it is even claimed that at times the oblique muscles are at fault If this deviation of the optic axes is apparent without tests, there exists strabismus, but if it is only latent, each eye fixing the object, and binocular single vision being present, it is spoken of as insufficiency of one or the other muscle To this general condition the term "heterophoria" has been given by Stevens, and this is specifically divided into "esophoria, a tending of the visual axes inward, exophoria, a tending of the lines outward, and hyperphoria (right or left), a tending of the right or left visual line in a direction above its fellow"

Diplopia is so dreaded by the mind, and desire for single vision is so great, that extra effort is made to compel the so called weak muscle to keep the optic axes in the right direction, and this effort is supposed to cause an unequal strain on the muscular apparatus of the eye that may excite all kinds of neuroses Headache, megrim, chorea, neuralgia, insomnia, chronic gastric and digestive disturbances, epilepsy, nervous prostration and insanity are some of the conditions that are supposed to result from such eye-strain, and it has even been claimed of late by some of the enthusiasts in this work that an organic disease like trachoma owes its origin in many cases to insufficiency of some of the eye muscles It is much more difficult to determine the effect produced upon the nervous system by strain of the extrinsic eye muscles, than it is to demonstrate such effect by strain of the ciliary muscles, even with extensive clinical data at hand In the first place, the tests for heterophoria are not so accurate as those we use for estimating the refraction of the eye, and in the very nature of things they can not be In the second place, we are dealing with a muscular apparatus far more complex than that which controls accommodation—a muscular apparatus which is innervated by three distinct motor nerves and is intimately connected with the sympathetic system, a muscular apparatus which is double, and must perform wonderful co-ordinate and conjugate movements

It is extremely difficult to determine with positiveness whether the muscular insufficiency is due to weakness occasioned by organic defect of the muscles themselves whether it is due to imperfect innervation of the muscles because of some trouble in the nucleus, or whether it concerns some of the higher centers presiding over co-ordination In many cases it is even impossible to say whether a given muscle is too weak or its opponent is too strong In the third place, we have not yet obtained accurate data as to the normal limits of mobility of the eye, and we are therefore not in a position to fix the abnormal

The assumption that normal abduction must be sufficient to overcome a prism of 8 degrees and normal adduction equal to a prism of from 30 to 50 degrees is purely an assumption While I am not prepared to deny that heterophoria or muscular insufficiency may in some cases be the cause, or one of the causes, of headaches and other neuroses, yet I hold that the results obtained by many ophthalmologists in the treatment of these cases, and adduced as proofs of the proposition are very far from conclusive It is true there are cases in which operation on the muscles of the eyes seems to have accomplished results that are indisputable I have had a few such cases myself, but the majority of them present such complex nervous symptoms, sometimes verging on the hysteric, that it is difficult to say whether, in treating the muscular anomaly, we are attacking the disease itself or only one of its effects

In considering the location or variety of ocular headache it is impossible to specify any positive characteristic that will differentiate it from headache arising from other causes In general we may say that the headache brought on by eye-strain is of a dull heavy character, although at times it may be sharp, excruciating and neuralgic, sometimes being so severe as to cause nausea or vomiting without its being a true megrim Its most frequent seat is in the supra-orbital or frontal region over the frontal and ethmoidal sinuses, a brow ache, or it may be described as a pain in the back of the eyes or deep in the orbits The next most frequent location is in the temporal region, and the pain here may be throbbing in character Occipital headaches are also observed, the pain being sometimes referred to the base of the skull or the nape of the neck, and even reflected to the back and shoulders Ocular headaches affecting the vertex are, in my experience, less frequent than any of the others

The most characteristic sign is the occurrence during or after excessive use of the eyes, as in reading or other near work, sight seeing, shopping, etc , but, as I have mentioned before, this rule is by no means absolute A person may awake in the night or rise in the morning with a headache apparently excited by an uncorrected astigmatism As far as true megrim is concerned, my observation leads me to believe that eye strain, whether accommodative or muscular, is much less frequently a cause of it than of any other variety It is true that the attack may be aggravated by a refractive error, but I have seen so many severe cases in which no error or muscular anomaly existed, that I am constrained to believe that when such errors are present they do not act as a direct cause of the trouble

TREATMENT

As far as regards the treatment it may be summed up very briefly Every case of headache the etiology of which is at all obscure should receive a careful examination of the eyes and this should include a most complete examination of the refractive condition as well as a thorough study of the retina the muscles Nothing short of an examination by the use of a mydriatic that will completely paralyze the accommodation is sufficient, as it is impossible to discover low degrees of hyperopia and astigmatism if the ciliary muscle is active Lenses representing the full correction of the refractive error, less 25 or 5D, should be prescribed and their constant wear insisted on They will not be tolerated unless the eyes are under the influence of a mydriatic, but with its help the eyes adapt themselves to the new relation Some persons will be able to lay aside the glasses after the functions have returned to normal, without the recurrence of the headaches, or any of the symptoms that prompted their use This is often noticed in certain cases at the age of pubescence, at which time the nervous equilibrium being so unstable, headaches may occur because of any excitement or irritation, and a slight hyperopia or astigmatism may furnish the cause The correction of this defect by relieving the ciliary strain, may remove one of the factors and so prevent the headaches

In cases where the trouble is not relieved by such measures, and it has been determined that a muscular anomaly exists, this should be treated by prisms, exercises, and means to strengthen the weak muscle before its apparently stronger fellow is operated upon

In conclusion, I wish to emphasize a few of the points made in this paper

1 There may be headaches which we may be justified in calling "ocular headaches," for in many of them there seems to exist a demonstrable causal relation between the eye strain and the neurosis Just how this operates it is impossible to explain at the present time Possibly when the presence of sensory nerve fibers in the walls of the blood vessels of the brain has been demonstrated, such an explanation as the following may be plausible "The irritation of the sympathetic nerves in the ciliary body by constant contraction of the muscle and the presence of the products of metabolism, causes through the vasomotors a contraction of the blood-vessels, followed by a dilatation and distention with resulting irritation of the sensory fibers"

2 While there may be a number of underlying conditions at work to cause a headache, eye strain of any kind, if present, may be a dominant factor exciting the attack, or in aggravating it, and the relief of this strain will often exert a most favorable influence

Finally, no study of headache is complete that does not reckon with the conditions that may exist in the eye, and when etiology is not perfectly clear these conditions should receive careful attention

103 State Street

DIAGNOSTIC CHARACTERISTICS OF HEADACHES ACCORDING TO THEIR ORIGIN

Presented to the Section on Neurology and Medical Jurisprudence at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo June 7-10 1898

BY H GRADLE, M D

CHICAGO

The object of the present paper is to point out those peculiarities of headaches which can serve as guides in the search for their origin The author's experience pertains principally to headaches dependent upon affections of the special senses But valuable lessons, too, have been learned—in a negative sense—from the study of those cases which, on investigation, proved to be of different character

Before proceeding to details, I wish to explain the point of view from which I have been led to regard headaches of peripheral origin While I agree with the general experience, that a large number of headaches start from some anomaly of the eyes or of the nose, I do not think that the detection of such a peripheral origin ends the investigation of the case We must consider not merely the peripheral lesion, but also the condition of the nervous system There are, indeed, certain peripheral conditions which will necessarily cause headache in every case, for instance, acute inflammation of the ciliary body, or acute suppuration of the nasal sinuses But, on the other hand, inflammatory affections of a more chronic character and mere refractive anomalies lead to headaches only in some, but by no means in all patients As I have elsewhere shown (*New York Medical Record*, Dec 17, 1895), the difference in the symptoms hinges on the condition of the nervous system Errors of refraction do not cause headaches in absolutely normal subjects, they simply produce local discomfort in the eyes In those instances in which optic defects lead to headaches we can demonstrate a neurotic tendency by close examination of the patient, his family record, his personal history, or sometimes only his subsequent history The more pronounced the instability of the nervous system, the more likely will comparatively trivial peripheral disturbances lead to headaches

The characteristics of headaches are 1, their location, and 2, their time relations Their severity is a less reliable guide for evident reasons

Location—The most important question concerning the site of a headache is whether it is wholly or predominantly one sided One sided headache is always due to a lesion on the same side of the head, either intracranial or in one of the organs of sense The *only exception is that form of migrain* which, though one sided at the time, alternates regularly between right and left, for in this case the source is not one sided, if it be peripheral at all Conversely, however, one sided lesions may in some instances cause headache not limited to the same side This is sometimes true of unilateral errors of refraction, as well as of affections of one ethmoid or sphenoid cavity Apart from the side of the head, the location of a headache furnishes no positive indication as to its source Although headaches are, as a rule, located in the vicinity of the organ whence they are started, there are so many exceptions to this rule, especially in neurotic subjects, that it has but little diagnostic value

Time relations—From the point of view of their time relations, headaches can be classified as 1, paroxysms recurring at *a*, irregular or *b*, regular intervals, 2, attacks following some specific act, 3, more or less continuous pain In this connection, too, must be considered the date of suffering, and its manner of onset

1 *a* Paroxysms of headache of similar intensity and duration and occurring at variable intervals constitute the form called migrain The experience of oculists is very definite regarding the ocular origin of many instances of migrain How large the proportion is, the oculist, however, can not state, as his cases are relatively selected If wholly or predominantly one sided, migrain is surely dependent on

either an error of refraction, or, in a smaller proportion of cases on some nasal disease The only ocular anomaly to which I have personally been able to trace migrain, is astigmatism Hypermetropia does not cause it Regarding the so called muscular anomalies, I have no definite experience If there are eye symptoms, and especially if the migrain is on the side of the notably weaker eye, an ocular origin is very probable Still, the absolute proof in a given case can only be furnished by the influence of glasses Even when astigmatism is present, it is not always the cause of the migrain, and in some few instances optic correction proves disappointing On the other hand, the absence of eye symptoms does not preclude the existence of a moderate degree of astigmatism as the starting-point of the headache The form of migrain preceded by scintillations and dim sight—the *scotomá scintillans*—is not always of ocular origin, although often the result of astigmatism

Migrain is in relatively rare instances induced by nasal disturbances Gruenwald quotes some convincing instances of ethmoid and sphenoid suppuration My own experience, however, has included but few cases of well-defined migrain depending on such disease When Hack made his startling statements, about fifteen years ago, concerning nasal reflexes, he quoted a number of cases of migrain prevented by cauterization of the nasal cavernous tissue These observations do not seem to have been confirmed to any extent I have personally seen one sided migrain occurring in connection with nasal stenosis of the same side In three of these instances I was able to furnish a proof of the relationship, by the great improvement in the severity and frequency of the attacks after operative removal of the stenosis, but in none of the instances were the paroxysms entirely averted Migrain of moderate severity and relative infrequency occurs in persons of apparently normal nervous sytem and good family history But great frequency great severity or massing of separate paroxysms into a continuous spell indicate other factors exerting a depressing effect upon the nervous system, besides a possible peripheral origin in the given case

b Paroxysms of headache with regular periodicity—recurring about the same hour daily—have mostly been the result of sinus disease in my experience In most of these instances the pain should really be classified as a neuralgia If, however, it is not strictly confined to a small area of nerve distribution, the patient may describe it as a headache I have seen it in connection with acute or subacute inflammation of the various nasal accessory cavities When starting from the frontal sinus it appears as a supraorbital neuralgia, which, however, may radiate into a diffuse one-sided headache The diagnosis is not always easy, even on inspection, for suppuration of the frontal sinus of moderate intensity is sometimes almost latent, and often transient, though recurrent But there was always the history of a preceding acute coryza These attacks yield quite often to either quinin or antipyrin even where there exists demonstrable sinus disease In ethmoid and sphenoid disease the pain is more described as headache than as a circumscribed neuralgia—usually but not invariably one sided

2 Of headaches following specific acts the most characteristic is the pain brought on by the use of the eyes for near work The more precise the coincidence of headache with eye-work, the more probable is the origin in either hypermetropia, hypmetropic astigmatism, or myopic astigmatism—in the order mentioned I do not mean that this order represents the frequency of the three anomalies, but the probability of a headache occurring irregularly and not strictly proportionate to the amount of eye work increases in the order mentioned The more neurotic the subject, the greater the probability of headache occurring at irregular occasions during the day, but these eye headaches are never present on rising, and never severe enough to prevent sleep In any deviations from this rule other factors must be sought for In highly neurotic subjects these ocular anomalies may bring on headaches on using the eyes even for a distant fixation, as for instance, in the theater Finally, there are rare instances, generally in anemic, sometimes in hysterical, patients of headaches following strictly upon the use of the eyes where no ocular anomaly of any kind exists

3 Headaches more or less persistent, or with irregular intermission may result from the same optic anomalies, but only in run-down subjects Very often other assisting factors can be demonstrated, such as stomach or intestinal disease, loss of sleep, and particularly insufficient out door exercise In other instances the refraction may be perfect, but other ocular disease be found This is sometimes a peripheral choroiditis Not rarely too, do we find the granular or salt and pepper appearance of the fundus, which I described last year (JOURNAL AM MEDICAL ASS'N, Jan 29, 1898), in connection with a highly neurotic disposition It has seemed to me rather characteristic in such instances, that the pain begins at once on awaking Continuous one sided headache if at all connected with the eye, is usually indicative of some serious inflammatory condition, especially if of recent date and rapid onset Optic neuritis—especially the retrobular form—is to be thought of, even if dim sight is not specifically stated by the patient The most serious condition that may lead to such symptoms is glaucoma and the possibility of chronic glaucoma, as the cause of severe and persistent one sided headache should not be lost sight of

Among nasal diseases the forms most likely to lead to persistent and unusually severe headache, are the more intense suppurative inflammations of the sinuses in which case nasal symptoms can always be elicited Nocturnal aggravations are not uncommon under these circumstances Moderate but very persistent headache is occasionally complained of in nasal stenosis of any kind but only by distinctly neurotic subjects It is less generally known that inflammatory conditions of the pharyngeal tonsil are sometimes the source of continuous headache, usually not very severe in both children and adults in fact, the existence of such transient inflammations in this region is not yet generally recognized I have seen over a dozen instances where the postnasal mirror showed either the existence of scattered white spots of exudation comparable to lacunar tonsillitis, or suppuration with scabs on the abraded surface at the roof of the pharynx In most of these instances I was able to stop this headache by appropriate local treatment I will add finally, that I have seen two instances of persistent diffuse one sided headache with irregular exacerbation which could not be traced to any peripheral source except carious teeth and which ceased promptly af their extraction

DISCUSSION

Dr Frank P Norbury, Jacksonville, Ill —I think the question of localized headaches is one that should be considered in a broader light than we have had it presented here to day, that is to say, aside from the question of the influence of the eye or of the nose We frequently meet cases of persistent headache, localized headache, which on examination may not reveal errors of refraction or nasal disturbance but which nevertheless are persistent and give rise to a great deal of concern, both on the part of the patient and on the part of the physician We are consulted to relieve the patients from these distressing headaches I think in all cases presenting persistent headaches it is our duty to go beyond the examination of the eye or the nose or the ordinary neurologic examination, that is to say, we should go into it from the standpoint of internal medicine, because it has been our experience that these conditions can only be relieved, in many cases, by a treatment of the patient as an individual In one case in particular, a case of diabetes, there was a persistent headache associated with urinary symptoms The diabetes had not been diagnosed I subsequently made a diagnosis of diabetes, and the subsequent treatment, regulations, etc , relieved the patient of his headache

Again, in cases of lithemia—so called uric acid cases—we meet a great many of them with localized headaches, the migrain not altogether limited to one side, varying from side to side, but they are essentially cases that can be relieved and oftentimes relieved speedily, and with permanence, if proper treatment be directed The lithemic headaches are not unusual with school teachers or in the office men who are confined to their desks, and in persons occupying positions of responsibility wherein they have to use a great deal of mental power, and it is not unusual to find in many of these cases that the headaches are of lithemic origin and can be relieved, and relieved speedily In Central Illinois, and in fact in the Mississippi Valley, we are apt to meet many cases of headache that are of malarial origin, this being determined by blood examination Cases which have failed to yield to the ordinary treatment of correction of refraction, or of errors involving the nose, when placed on malarial treatment are immediately relieved Then, it is not infrequent to find in some forms of insanity a persistent localized headache I allude especially to those forms of insanity that are due, say, to valvular disease of the heart It is probably a rare form, but nevertheless there are cases of insanity due to changes either in the heart or in the arterial system, and I remember one case in particular where valvular disease of the heart was responsible for innutrition of the brain, which, when properly treated, relieved the patient not only of the headache but of the insanity as well There are cases due to simple anemia, occurring during the adolescent period, and especially in girls The headaches at that period sometimes, as you know, interfere greatly with young women in their work at college In young women taking a course in the arts, where application must be constant, the headaches become so violent as to interfere with their studies Of course, a headache is simply a symptom, and in our investigation of headaches we must be very careful to take into consideration the possibility of all diseases, applying in our diagnosis all the tests we possibly can before we arrive at our decision

Dr Robinson of Illinois—This is a subject in which I have great interest I have looked at this subject of headaches, and watched the cases which have been brought before me for many years, including those that are sometimes called headache and sometimes migrain The causes and treatment are beyond my caliber to understand I know one family the members of which have had that form of headache for thirty years, occurring every two or three weeks, and the father, son and daughter, for four generations, have these attacks I have in mind now one case where the patient has been suffering for more than thirty five years with headache, which at first would come on by a pain over one eye, or a blindness At the present time the attacks commence usually in the night, and in the morning the headache becomes more severe, and that patient is obliged to keep her bed from 24 to 72 hours Nothing seems to relieve these paroxysms except morphia, and that only temporarily The acetanilids, the stimulants, caffein, and all the medicines I have used, produce only temporary results I have looked upon these headaches from the standpoint of uremic or uric acid poisoning, and I do not know but that may have some influence But they recur regularly In one case the patient will wake up about 2 A.M with a severe headache He either gets up and goes around town the next day, or takes a dose of acetanilid, caffein, bromid, or soda, which will frequently relieve the headache for two or three weeks But the poison seems to be bottled up in the system, and breaks forth to such an extent that a strong man is a wreck, unable to do anything, and suffering more than I can describe

Dr Eskridge—An interesting form of headache is suspended or postponed headache I have not infrequently noticed that school children will go all week without suffering, and on Sunday invariably have a headache The same is true of bookkeepers, who will invariably be attacked with headache on Sunday This can be explained on the same theory that a person carrying a grip or other weight, getting accustomed to it, does not notice it until he puts the grip down As to migrainous headache I think we have to look for the cause first, to a defect in the constitution—a defect in the neural structure—and next to some defect probably in the nutrition, but the whole pathology is not known

Dr J W Givens, Black Foot, Idaho—The significance of headache to the patient is one of the things that we all have to confront in our daily practice The label "headache" is very indefinite, but nevertheless it is the description of the condition of which the patient complains, and the one that we are called upon to relieve I am sure what Dr Gradle has said in regard to nasal trouble is true We notice this fact in this mountainous country, where we have more or less catarrhal trouble I feel that by attending to and relieving the nose we do a great deal toward relieving the headache I also think that these wind storms are responsible for a good many headaches Then, too, as Dr Eskridge has said, a great deal of headache is constitutional The pathology of it in many cases is something like the pathology of epilepsy We do not know what it is, but the headaches are, in their clinical picture, very like the picture of epilepsy I do not know what can be done for those cases any more than I know what can be done for epilepsy Most of them have to be endured In all cases of headache I think we shall generally find a lowered condition of nutrition, and while the local conditions—the nose, the ear, the teeth—require attention, it is very important to keep the general health up to the very highest point of excellence by the use of pure food, outdoor life as far as possible, the use of cod liver oil and the tonics, treating the patient in fact, as we would treat a thorough bred race horse, if we wanted him to win the race Treat the patient in this way and keep him in that condition all the time, and you will minimize the likelihood of headaches, or at least reduce their severity

Dr Woodson of Missouri—I have frequently found that headache occurs in anemic conditions, especially in chlorotic girls and in children that eat irregularly or that do not take time to eat, owing to their eagerness to get out to play I have also found headache occur in persons who give away to fits of anger, or in persons who attempt to overwork themselves, doing as much in one day as they ought to do in two, in persons who sleep in apartments that are not supplied with a sufficiency of fresh air I also have frequently found headaches associated with catamenal disturbances, and we find it associated with the lesions of specific troubles So far as giving a fixed prescription for headache is concerned, it would be as impossible as a fixed prescription for any other trouble As suggested by Dr Norbury and concurred in by others, it is necessary to look out for the cause, and if possible remove it, in the anemic and chlorotic, insisting upon a sufficient amount of outdoor exercise, and well ventilated sleeping apartments, with a bountiful supply of nutritious food, and so on through out the other cases

Dr Harold N Moyer, Chicago—I take it that Dr Gradle's paper was not on migrain at all, that being only incidentally referred to I suppose his title would have been more nearly correct if it had read, "Characteristics of *some* headaches according to their origin " But the particular kind of headaches to which his paper referred were those of ocular and nasal origin very largely, and how to differentiate those from one another, and also from neuralgia and the headaches of other origin, I take it, was the purpose of the paper There is one valuable point in the whole discussion, and that is the conclusion at which Dr Gradle arrives from his standpoint of the ophthalmologist, one who largely sees cases of eye and nasal trouble primarily My experience is entirely from the other side, but I substantially agree with his conclusions I believe that fully 70 per cent of all the cases of headache that I see are primarily eye strain headaches, and I would put myself in accord with Dr Gradle's conclusion as to the indication by which we are to arrive at a diagnosis Since the subject of migrain has come up, I might mention that I have recently seen a very interesting case suffering from an eye strain This persistent eye strain was relieved by the proper glasses, but the patient still has her migrain at stated intervals, showing that there were two kinds of headache present in the same patient As to migrain, there is no doubt that in all these cases we are dealing with toxemia, and I think that the investigations of Ratchford have shown conclusively that it is not uric acid, but some of the by products, and I am satisfied that is the underlying condition in most cases of migrain However earnestly you look for end organ disease, however you eliminate eye strain, there will be a very large proportion of headaches in which you will not discover the cause, and which you will fail to relieve

Dr **Hugh T Patrick**, Chicago—I should like to ask one question of Dr Gradle I understood him to say that one sided migrain was due to eye or nose trouble in all cases If he meant that statement, I wish to very positively and emphatically dissent from it If he says that one sided migrain *may* be due to eye or nose trouble, I agree with him

Dr **C C Hersman**, Pittsburg—Quite a number of times in cases of headache thought to be due to eye trouble the headache was not benefited by correcting the eye trouble I think, as Dr Meyer stated, we will find the trouble due to a toxemic condition In some cases of angioneurotic edema we have excruciating headaches, it is almost impossible to relieve them without very heavy doses of narcotics, and while we have very little light on angioneurotic edema, still I think that is a toxemic condition In this trouble sometimes the swellings come on close to the monthly period, or we may find it two or three times during the month A great many of the headaches are attributed to improper food and irregular habits, but if you take these same patients and make them live the most correct life possible for them to live, the attacks will occasionally occur I do not understand the reader as Dr Patrick understood him I understood him to say that when we did have a one sided headache it was most likely to come on the side of the bad eye

Dr **T D Crothers**, Hartford, Conn —There are two facts that I think are very prominent I think all these cases of headache are practically poison and starvation cases The whole philosophy turns on that, and if you can eliminate these two elements you are successful

Dr **Charles H Hughes**—The chair would like to remark that the phenomena of headache are too much viewed from one spot rather than from the whole individual Any one who has had experience with migrain, of which I have had an abundance for twenty years, knows what constitutes migrain In my own case I was in the habit of forcing mental action to the utmost limit by the use of coffee For twenty years of my life I used a half gallon of coffee between 9 o'clock and bed time, and forced myself to a condition of wakefulness I always slept in spite of coffee, but I learned afterward that I did not sleep in each twenty four hours quite so much as was necessary for daily recuperation My migrain came upon me in this way first at the end of thirty days I was obliged to retire *hors de combat* for about one day, could not tolerate the light, so hyperesthetic that I could not tolerate sensation of any kind The greater part of that day was spent in misery and retirement Then the conservatism of nature asserted itself, the sleep which followed, and which was more than I was in the habit of getting, was a compensation, and I was restored to a more normal condition When it became my misfortune to preside over the fortunes of a lunatic asylum these migrain attacks came on every week, and the only thing that conserved my vitality at all was the very fact that it knocked me out so completely that I could not do anything for nearly one day a week The toxemic theory has found a very satisfactory lodgment in my mind I have no headaches now, and have not had for fully ten years, but I have learned to take care of myself better The amount of brain strain that a man puts upon himself is sufficient to bring about this condition of the accumulation of toxins, and they cause the trouble, as I think is no doubt the case in our epileptic conditions, but it is necessary to have an organism that is predisposed Exophoria, esophoria, errors of accommodation and refraction of various kinds are associated conditions, and they tend, where you have a neuropathic condition that gives you the headache, to make the latent condition active, but I do not think as the ophthalmologists assert, that they are every, the sole, exclusive and only cause As Dr Brower said, the removal of whatever source of irritation that may exist is good therapy it is good practice in neurotherapy as in every other department of medicine but to assume that these migrains are the result of just one thing is a mistake in my judgment. As to medical treatment of my headaches I learned to use bromid of potassium afterward bromid of sodium, and I learned to get more rest and to adjust the expenditure of nerve force to my capacity for daily accumulation The same condition that will give you a diabetic urine will, in the cortex, in the meninges, give rise to a headache, but it seems to me that this whole subject is a subject concerning the treatment of the individual and his habits Irritation in the eye will bring out a latent headache

Dr **Harold N Moyer**, Chicago—Is it not true that nine tenths or more of the migrains practically cease with advancing years?

Dr **Hughes**—That is a fact, I think At 45 years of age the majority of people cease to have migrain At that time of life when they begin to understand what life is

Dr **Moyer**—And when their blood vessels get a little harder?

Dr **Hughes**—That may possibly be the explanation

Dr **Gradle**—I was not presumptuous enough to come before a Section of Neurologists with a paper on the treatment of headache My paper merely had to do with the characteristics of some headaches which were relieved by local treatment I wished to present those symptoms by which the peripheral origin can be determined, and relief obtained Dr Patrick did not understand me correctly I said in the paper that in every case of one sided headache the cause was either a one sided intracranial lesion, or an affection of an organ of special sense on the same side I base this on my own experience I have never seen an exception to this rule I was always able to trace such a condition to some affection of one side of the head, with this exception, however, that those cases of migrain which alternate regularly between the right and the left side do not come in the category, they are not due to one sided lesion, or any other lesion I have been misunderstood as to the importance of the peripheral lesion in causing headache, especially migrain I stated in my paper explicitly that in every case of headache, not only the alleged peripheral causes but also the condition of the nervous system needed investigation I added, furthermore, that there are some peripheral causes so potent that they would introduce headache in anybody, no matter whether they be in good health or not For instance, a severe injury to the eye, causing inflammation, will invariably produce headache, or severe coryza extending into one of the sinuses of the nose will cause headache as a regular consequence, no matter how perfect the nervous system of the individual On the other hand, an astigmatism of one diopter or thereabout will not necessarily give eye symptoms to a normal individual whereas if the individual is run down, or other depressing factors are at work, he will have eye symptoms

The question has been asked about the frequency of astigmatism as the cause of migrain That the oculist can not answer, as his cases are selected In the great majority of cases that were sent to me I was able to demonstrate an ocular origin, but, of course, only those cases came to me where a peripheral origin was suspected I presume that a large number of cases of migrain have no peripheral origin The proof is very definite that the peripheral irritation is sufficient to bring on these attacks That other factors are present, also, there can be no reason to doubt, because of the periodicity of the attack There must be some other factor My paper did not deal with the pathology of headaches, I did not refer to these factors, and I am not at all sure that the toxemic theory is sufficiently proven

In answer to Dr Hughes' query as to cases of astigmatism coming on in school children while they are at work, and disappearing when they leave school for the term, I would say that the astigmatism does not really disappear, the astigmatism is stable in the majority of its conditions, the others are very rare cases The strain is lessened when the child is at liberty I consider it very one sided and altogether wrong to finish the work by prescribing glasses, and not to consider the other factors at all Of course, if the glasses relieve there is no reason why they should not be given

---

EYE SYMPTOMS OF BRAIN TUMOR

Presented to the Section on Neurology and Medical Jurisprudence at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY EDWARD JACKSON, A M, M D

OF DENVER COLO

EMERITUS PROFESSOR OF DISEASES OF THE EYE IN THE PHILADELPHIA POLYCLINIC FORMERLY SURGEON TO WILLS EYE HOSPITAL PHILADELPHIA

OPTIC NEURITIS

Among the eye symptoms of brain tumor we naturally think first of optic neuritis, the most striking and significant symptom in cases of this class Probably not a few practitioners have associated optic neuritis chiefly or wholly with intracranial disease or intracranial growths But while it is right that great importance should be attached to this symptom, occurring as it does in 80 or 90 per cent of all cases, it is necessary to point out that its discovery is far from establishing a diagnosis of brain tumor It is of very little value to indicate the location of the tumor, and it is worthless as regards revealing the nature of the growth But it does show with great probability that brain symptoms accompanying it are due to serious organic disease Even here however, its indication is not absolute, for, in common with these symptoms, it may arise from different kinds of poisoning

It has been a matter of some surprise in going over a series of my cases of marked optic neuritis, to find how exceptional has been its connection with intracranial growths, and how many cases occur in connection with other diseases Thus, among 27 cases, but 17 were probably connected with serious organic diseases of the brain and its membranes, and only 8 of those were—probably five or certainly three—cases of brain tumor The others arose in connection with renal and vascular diseases, syphilis, various toxic agents, chiefly lead and alcohol, disease in the orbit, or of the ethmoidal and sphenoidal sinuses, or were of such obscure etiology as to be classed as idiopathic

Unfortunately, optic neuritis due to brain tumor presents no especial characteristics that separate it sharply from optic neuritis due to these other causes Indeed, it is sometimes difficult to distinguish it from such an entirely different condition as the optic neuritis due to eye strain, or from the protruding opaque optic disc that occurs in rare cases, probably as a congenital anomaly So far is optic neuritis from fixing the underlying pathologic condition as one of brain tumor, that in determining the cause of the optic neuritis the other symptoms of the case have to be carefully considered Still the ophthalmoscopic appearances do give certain indications of the cause of neuritis, which are of value in reaching a diagnosis

Let us contrast the neuritis due to the various other conditions mentioned with the typic optic neuritis of brain tumor Such typic neuritis is characterized by great swelling, sometimes 10 or 12 D (3 m m), abruptly limited, at no great distance from the margin of the disc, with arteries narrowed, veins dilated and very tortuous, and small vessels much enlarged, but not very numerous, because scattered through the swollen tissue, and small, flame-shaped hemorrhages upon or near the papilla The other portions of the fundus, except for the alteration in the vessels, are normal, or present changes which are slight as compared with those at the disc, although to this last statement there are very important exceptions

In contrast with the above Swelling and discoloration of the disc, occurring as an anomaly, are never of very high degree No such recorded case showed more than 4 D swelling of the optic papilla, and in none that I have encountered was the most and prominent portion of the swelling more than 3 D in front of the level of the neighboring fundus Again, even with the higher degrees of such swelling the retinal vessels are normal, and the other parts of the fundus are normal or exhibit no lesions like those of neuro retinitis

Optic neuritis, due to eye strain, is more common, but in this also the swelling is limited The disc may be very red and yet the most prominent vessels be not over 1 D in advance of the fundus In this form, too the larger vessels are but slightly altered, and the fine vessels of the optic disc are very much more numerous, but are not particularly irregular in caliber or very tortuous

Under idiopathic optic neuritis, or optic neuritis of unknown causation, I should prefer to place the unusual but not very rare cases that have been ascribed to cold, rheumatism, disturbance of menstruation, etc The ophthalmoscopic appearances resemble those of optic neuritis due to eye-strain, except that the swelling may be greater and the retinal circulation more interfered with Optic neuritis of this kind is usually acute, and tends to early and comparatively complete recovery The field of vision does not present great concentric or irregular contraction as compared with the ophthalmoscopic appearances, although the blind spot may be markedly enlarged and irregular I have met with one case in which such optic neuritis, with great impairment of vision recurred yet was followed by almost complete restoration to normal

Optic neuritis in connection with gummatous growths is rather frequent in the tertiary stage, but it may also occur as one of the earlier secondary lesions of syphilis I have seen it within three months after the initial lesion In this stage it presents the clinical appearances of idiopathic optic neuritis and is rather promptly amenable to treatment Of the form of retro-bulbar optic neuritis that leads to central scotoma without marked ophthalmoscopic changes it is unnecessary here to speak But in rare cases, certain toxic agents, especially lead, may cause a form of optic neuritis that closely simulates that due to brain disease It is usually chronic, and attended with great swelling and corresponding disturbance of circulation, while the general condition of the fundus remains, as in the optic neuritis of brain disease, comparatively good I know of no signs by which one may, with the ophthalmoscope, discriminate between this form and the optic neuritis due to brain tumor The diagnosis between must be based on other symptoms, that should be constantly borne in mind in connection with this subject

But most frequently the doubt as to the significance of optic neuritis rests upon the resemblance of the lesions in certain cases of renal vascular disease, to those connected with brain tumor The forms of optic neuritis due to these two causes may in typic cases be quite distinct, and in the majority of cases there is exhibited a certain divergence of type But in some it is absolutely impossible to decide from the ophthalmoscopic examination to which class the particular case belongs, and in some, neuritis due to the one cause inclines rather to the clinical type of the other The typic differences are these Optic neuritis due to renal and vascular disease is more apt to be attended by hemorrhages and patches of exudation throughout the fundus, is more apt to be accompanied by the stellate grouping of white spots at the macula, is more apt to be associated with marked irregularities in the caliber and appearances of the vessels, apart from dilatation and tortuosity of the veins Still, optic neuritis from brain tumor may be accompanied by general retinal hemorrhages and considerable areas of retinal exudation, especially at the macula, or between it and the disc (Harlan) Even the stellate group of white spots in the macula formerly regarded as pathognomonic of albuminuric retinis may be included among the retinal lesions connected with brain tumor (de Schweinitz)

With very extensive retinal lesions one may say that in all probability the trouble is of renal-vascular origin With a complete absence of them, one may say that violent optic neuritis is probably due to organic disease within the cranium, but the possibility of confusion should not be lost sight of Bearing it in mind, examination of the urine will usually show to which class the case belongs

Given then a case of optic neuritis that can be excluded from the class we have just considered, its existence indicates with great probability the presence of grave organic disease within the cranium Further than this we can scarcely go It will be impossible to say from examination of the eyes that the cause is a brain tumor, a meningitis, or a cerebral abscess The rapidity with which the neuritis runs its course will, however, in some cases give a valuable indication Although Gowers shows that chronic neuritis never results from a rapidly growing tumor, in a tumor of very slow development the neuritis may be rather more chronic than from any other cause, slowly increasing for many months before vision is seriously impaired and running a course of years before it ends in atrophy

OPTIC ATROPHY

This is usually consecutive, coming on as the termination of optic neuritis As such it has the same significance, and requires the same caution in excluding other possible causes

Among 40, that I regarded as cases of consecutive atrophy, 13 were apparently due to organic intracranial disease, of these 3 were probably cases of tumor The tendency in all cases is for optic neuritis to pass into atrophy, but in connection with brain tumor neuritis runs such a chronic course, that a large proportion of patients die before the atrophy predominates The rapidity of the change to atrophy is usually related to the rapidity of the development of the neuritis Marked permanent impairment of central vision and contraction of the field of vision are associated rather with the atrophy than with the neuritis For a considerable time after atrophy is well-marked the evidences of previous neuritis remain unmistakable and not easy to overlook But if the case be very chronic it is possible that the appearances which characterize the atrophy as consecutive, may be so trifling as to readily escape notice These appearances are at first the remaining symptoms of neuritis, especially the swelling, now growing pale, the opacity which hides the disc outline, and the patches of exudate in the retina Later the head of the optic nerve becomes clearly outlined, although still so opaque that the vessels can not be traced far into it The vessels diminish in size, the veins as well as the arteries, though the former remain relatively large as compared with the latter, the vessel walls are more noticeable than normal, the vessel being sometimes accompanied by white streaks well out into the periphery Patches of former retinal exudate may now appear as white degeneration, or only as areas of disturbed retinal pigment

Around the disc may almost always be noticed some disturbance and absorption of the choroid, which is apt to be greatest at the upper and lower margins of the disc This location distinguishes it from the somewhat similar choroidal changes due to previous eye-strain, which are generally most pronounced at the temporal margin of the disc In rare cases simple atrophy, that is, atrophy without previous neuritis has occurred in the course of brain tumor It is due to pressure upon the optic nerves chiasm or tracts or to direct destruction of the optic radiations or centers Having this origin it becomes of considerable localizing value

CHANGES IN THE PUPIL

With impairment of accommodation changes in the pupil may occur as effects of direct involvement of the nerve tracts concerned Sudden temporary disturbances may occur here, as they occasionally do in other forms of chronic organic disease of the brain and cord, but they have no especial significance with regard to brain tumors The Wernicke symptom or reaction, or want of reaction, of the pupil to light thrown upon the blind half of the retina has in a few cases great localizing value It throws no light upon the nature of the lesion which produces it In attempting to elicit this symptom, especially when the vision is greatly impaired and the field contracted in all directions, it is sometimes necessary to throw the light into the eye from a point not greatly removed from the visual axis In this way contraction of the pupil to light may be obtained, when, if the light were simply let fall toward the periphery of the retina, the result would be entirely negative Of course, the nearer the light is brought to the direction of the visual axis, the greater the care that must be observed to insure that the pupillary reaction is not brought about by light falling upon the macula Where the field of vision is still wide and the pupil reacts strongly to light, care should be taken that the light does not reach the seeing half of the retina through the sclera covering it, in sufficient quantity to provoke the contraction of the pupil, when, from light falling on the blind half of the retina, no contraction would occur

To guard against this source of error I commonly use the light as reflected from the ophthalmoscope mirror, which can be concentrated in a small area upon the face and then turned so as to fall upon only the front and blind side of the eye For instance, suppose a case of right homonymous hemianopsia—the left half of each retina blind—the source of light being behind the patient, the ophthalmoscope is held to the patient's right, as compared with his visual axis The light is properly concentrated upon the brow or the nose and then the mirror turned so that the light area will fall upon the pupil and portion of the sclera to the left of it, the sclera to the right of the cornea remaining in darkness

PARESES OF THE EXTRAOCULAR MUSCLES

In connection with brain tumor these are chiefly of value in the matter of localization and the exact significance of each of the forms of extraocular paralysis in this direction need not now be rehearsed In a general way such lesions, due to brain tumor are more slow in their onset, and are longer in reaching complete development than those due to other causes, even perhaps those due to nuclear degeneration But not much importance should be attached to this, since in connection with brain tumor their development may be entirely sudden

A subject that has not attracted the attention it should have and which will probably profitably repay careful study, is that of paresis or transitory disturbances of the extraocular muscles, which occur as distant symptoms with brain tumor as they do with other forms of organic disease, and which may be one way that the new growth causes such symptoms as headache and dizziness. In some cases at least they arise early, having probably much the same origin and significance as the mental disturbance, and the tendency to forced positions of the limbs, or involuntary movements that are sometimes seen. They are at least worth studying with the Maddox rod, the tendencies to deviation of the visual axes being taken when the eyes are turned toward various parts of the visual field.

NYSTAGMUS

Although rarely accompanying blindness from cataract or corneal opacity, nystagmus is encountered in a large proportion of all cases of blindness from disease of the central nervous system. It is generally present when complete blindness has existed for many months in the course of brain tumor, but its occurrence in connection with other intracranial lesions robs it of especial diagnostic importance. It is probably more common and appears earlier in tumor of the cerebellum. In a few cases it appears while there is still fair sight, generally in connection with other disorders of the extraocular muscles.

IMPAIRMENT OF VISION

Impairment of central vision and limitation of the field of vision may be of importance in calling attention to the existence of serious organic disease. The exactness with which they can be estimated quantitatively, gives them value as indicating the progress of the case. In the large majority of cases, however, they depend upon the optic nerve lesion and indicate its progress rather than that of the original disease. In a few cases where the affection of sight is due to direct involvement of the visual tract the changes in the field of vision become of the highest significance as a localizing symptom. Transient impairments may occur as a distant symptom, having the same significance as the mental disturbances and hysteroid symptoms.

Impairment of color perception can not be regarded as of a special localizing value. As Holden has shown, it may be merely a more delicate indication of the injury to the visual conducting apparatus, before this injury has become sufficient to interfere with the perception of form.

THE STIGMATA OF NERVOUS SYPHILIS

Presented to the Section on Neurology and Medical Jurisprudence, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY WILLIAM J. ROTHWELL, M.D.
PROFESSOR OF NEUROLOGY, GROSS MEDICAL COLLEGE
DENVER, COLO.

Specific lesions of the nervous system produce localizing symptoms similar in character to those which result from non-specific lesions having the same anatomic seat. Partial epilepsy of gummatous origin or hemiplegia from syphilitic thrombosis of the central arteries has no distinguishing features, per se, associate symptoms alone reveal its real nature. To describe these characteristic symptoms and to emphasize their importance in the diagnosis of cerebral syphilis in particular, is the object of my paper. A brief reference to the salient pathologic features of specific nervous disease is essential for the better understanding of the subject.

It is well known that syphilitic inflammation affects primarily the blood-vessels and meninges of the neuraxis. While no part of this extensive territory is exempt from specific invasion, the most vulnerable parts are the convexity of the hemispheres, especially in their anterior portion, and more frequently still the base of the brain from the chiasm to the annular protuberance, involving the apparent origin of the cranial nerves. In both the meninges and the blood-vessels these gummatous products occur in two different states of aggregation, the one focal, the other diffuse. In the pia-arachnoid they are generally circumscribed, in the dura, on the contrary, diffuse gummatous infiltration is the rule. In the arterial walls they are also found as plaques or patches resembling atheroma, or as extensive infiltrations of the tunica intima. Remarkable peculiarities of this tissue are its rapid growth, low vitality and the rapidity with which it undergoes retrogressive changes.

Since the meninges envelop every part of the encephalo spinal axis, and the blood vessels traverse all its conducting paths and functional centers, a great number and variety of symptoms are to be expected in a general infection like syphilis, with a special predilection for these tissues. The symptoms of specific involvement of the nerve centers are, therefore, apt to be not only multiple but multiform. The initial manifestation may be, indeed, single, but if the disease be left to pursue its own course, evidence of multiple lesions will soon appear. Thus a double hemiplegia with aphasia, depending as it must upon two foci of disease, points to a specific origin, while a right hemiplegia, with or without aphasia, being of necessity due to a single lesion, indicates a common source. Of like significance is the association of symptoms of involvement of the third cranial nerve on one side with hemiplegia of the opposite side. A very striking exception to the law of multiplicity of lesion is the isolated loss of the iritic reflex to light, which is considered by Gowers to be an important indication of cerebral syphilis.

We have already called attention to the fact that the morbid product of syphilitic inflammation, the so-called gummatous exudate, grows rapidly and as rapidly disappears. The symptoms depending upon such lesions must possess the same transitory character. And this is true of all disturbances resulting from the specific process itself. Paresis, aphasia, strabismus and hemianopsia (when not associated with hemiplegia) of acute onset and brief duration, point almost unerringly to the primary effects of gummatous exudations. We must recollect, however, that these products may damage the nerve structures by pressure or by interference with their blood-supply, and that these secondary lesions belong in the class of necroses or degenerations, of which the effects may not be transitory but permanent.

Syphilitic arteritis is a curable malady, but when arterial thrombosis occurs with consequent ischemia and necrosis of that vascular area, the pathologic process is no longer specific, and the clinical history merges into that of common lesions, the disability becomes more or less permanent. Gummatous exudates, compared with other new formations, develop rapidly and this pathologic feature gives to many specific lesions a characteristic onset. Cerebral hemiplegia of common origin has, as a rule, a sudden onset. Gowers claims that a sudden onset is characteristic of all vascular paralysis. When, however, the hemiplegia depends upon syphilitic thrombosis the onset is rather subacute than sudden. It is preceded by headache in three-fourths of the cases according to Fournier Other prodromic symptoms, such as brief spells of partial unconsciousness, transient aphasia, motor weakness on the side afterward paralyzed, are often observed Fournier observed six cases of hemiplegia from this cause in which the muscular weakness slowly increased from day to day, the hemiplegia being the terminal stage of the process

Ischemia, from narrowing of the lumen of the diseased artery and necrosis following its complete occlusion, necessitates a subacute onset Exceptionally, however, a sudden and even fatal apoplexy occurs in specific arterial disease, but such sudden fatalities are caused by rupture of an aneurysm of one of the large vessels at the base of the brain Again, syphilitic granulation tissue undergoes rapid absorption, and if uninfluenced by treatment is soon reproduced As a result of this pathologic character the symptoms depending upon the presence of such exudates have a characteristically irregular course A disease which pursues a uniformly progressive course is, in all probability, not due to a specific process In this respect we may compare the course of syphilitic dementia with that of progressive paresis The symptomatology has many points in common, but the course of the two diseases is quite different Dercum, in differentiating these mental affections, makes the following point relative to syphilitic dementia

"Even when the mental symptoms have been established they may suddenly recede and marked improvement may take place, to be followed, after an irregular interval of time, by a renewed accession of symptoms On the other hand, spontaneous arrest and disappearance of certain symptoms may occur, together with the sudden appearance of others entirely new" What is here stated in regard to dementia is equally true of many somatic lesions

Recurrent vesical disturbance of temporary duration, especially weakness of the detrusor muscle, is exceedingly valuable in the diagnosis of specific disease of the spinal cord The clinical history of irritation or pressure affecting the cranial nerves often manifests the same irregularity Gowers calls attention to a relapsing palsy of the third nerve The well-known variations in the extent of the visual fields and the alterations in the pupillary reaction to light under varying degrees of pressure in the second and third nerves, respectively, are instances of the same irregularity in the evolution of specific diseases of the nervous system

Headache is another very important stigma of cerebral syphilis As before stated, it is present in three-fourths of the cases Dangerous complications seldom occur without this prodromic symptom It may be truly said that syphilis, like the rattlesnake, seldom strikes without warning This headache is intense, generally referred to the depth of the brain, an encephalalgia It is seldom diffuse, but localized in a definite region When seated in the parieto-frontal region it is either unilateral or predominates on one side One of the special characteristics of this headache is the regular exacerbations followed by remissions or intermissions to which it is subject Absent, or quite supportable in the daytime, it reappears or becomes intensified in the early part of the night, and subsides gradually toward morning Exceptionally, its maximum intensity is in the morning at the waking hour Very seldom, indeed, does it persist night and day without any variation This headache is often accompanied by an evident change in the mental condition of the patient In mild cases there may be only slowness of thought and inaptitude for sustained mental effort In more pronounced cases there are veritable mental torpor, amnesia and a noticeable change of character These prodromes acquire a still more precise signification when there are added to them formication and numbness of the extremities with transient or enduring pains

Disturbances of sleep are also important stigmata of brain syphilis Insomnia may be due to cerebral irritation, the result of initial organic changes in the blood-vessels or meninges In other cases it is dependent upon the severity of the headache The brain cells must be normally nourished to enjoy repose The circulatory disturbances incident to specific changes in the brain tissue interfere with cellular nutrition, producing a state of irritable weakness and resulting wakefulness Insomnia belongs, therefore, among the early manifestations of the disease Like the other symptoms to which reference has been made, its diagnostic value is derived from association Grey claims that both insomnia and headache cease on the supervention of paralytic or convulsive phenomena In two cases of syphilitic hemiplegia recently observed by me, they were greatly, but not completely, relieved Somnolency is a threatening prodrome of the cerebral complications of syphilis It varies in intensity from mere drowsiness to profound lethargy It is usually preceded by a period of very violent headaches The sufferer pays but little attention to his surroundings His countenance is dull and expressionless He has attacks of vertigo, partial loss of consciousness and transient aphasia He is usually compelled to keep his bed, sunk in almost continual sleep At night there are mental wanderings and muttering delirium, resembling those of typhoid fever His groans and complaints plainly show the continuance of violent pains in his head If, during this semi-comatose condition, symptoms of involvement of the third pair of cranial nerves develop, such as diplopia, strabismus, ptosis, etc, they are evidently dependent upon basal syphilitic meningitis Absence of fever and a tendency to spontaneous recovery, notwithstanding these ominous symptoms, are additional elements of great diagnostic value In the milder cases the patient may attend to business, but his executive ability is greatly impaired His memory is poor He is unable to concentrate attention upon the matter in hand, and often falls asleep at work, though the previous night may have been passed in deep and continual sleep

Circulatory disturbance, the result of arterial disease, is evidently the causal factor in these cases Accordingly, many such cases, if not early detected and properly treated, eventuate in thrombosis, softening and hemiplegia The value of these stigmata in the diagnosis of the cerebral complications of nervous syphilis is well illustrated in the case of syphilitic epilepsy It is of quite frequent occurrence Heubner encountered it twenty times in twenty-six cases of cortical syphilis The attacks may assume all the known forms of comitial disease, from the mere vertigoes and momentary absences of petit mal to the convulsive attacks and psychic equivalents of grand mal While the first attack may appear in apparently perfect health, it is usually preceded by the whole cortége of premonitory phenomena common to cerebral syphilis Severe nocturnal headache is a very common precursor of the initial paroxysm The age at which it begins is likewise a valuable stigma Essential epilepsy begins in early life When, therefore, epilepsy makes its first appearance in middle life, it is in all possibility, of specific origin Again, syphilitic epilepsy does not pursue the monotonous inexorable course of the common affection, but bears the stamp of irregularity This irregularity is manifested by a gradual shortening of the intervals between the paroxysms, eventuating in a series of rapidly recurring attacks, coma and death It never exists for any great length of time as an isolated affection It bears the stamp of multiformity There are soon associated with it various symptoms differing from those of the ordinary disease Cortical paresis, at first transient and following the attacks, may become paralysis and persist indefinitely

While there is some loss of memory in essential epilepsy, especially when it becomes chronic, in the specific disease memory is very greatly impaired, and in some cases complete amnesia is manifest from the very first attack The symptoms of paresis or paralysis of the oculomotor nerves are often added to the combination Double optic neuritis frequently coexists, this being in itself characteristic, in that its course is more rapid than when dependent upon any other lesion not excluding cerebellar tumors These stigmata also render valuable aid in the differentiation of syphilitic from paretic dementia

1 Headache is present in both affections, but has different characteristics in each In specific dementia it is of the usual persistent, paroxysmal, nocturnal type, while in paresis, though a very few severe spells are common, they never occur in long-continued series

2 Syphilitic dementia pursues a characteristically irregular course Paralytic phenomena which belong to the final stage of paresis may even precede the mental degeneration of the specific malady The course of mental decay in paresis is progressive, with but few exceptions, while that of specific dementia is variable In the latter some symptoms may wholly disappear to be replaced by others of a very different nature Great mental improvement may take place, the mind may clear up and lucid intervals of long duration supervene

3 If in a doubtful case, ptosis, strabismus, aphasia, or other paralytic symptoms develop, and especially if it be short lived, the diagnosis is rendered certain, for suddenness and brevity are the brands of the motor phenomena of cerebral syphilis

To recapitulate Syphilis of the nervous system usually manifests itself in middle life, its serious complications being preceded by headache, insomnia or somnolence It has an acute or subacute onset, pursues an irregular or atypic course, presents a multiplicity or multiformity of phenomena—the distribution of the paralytic symptoms being quite erratic—and causes a very early and marked impairment of the mental faculties

---

Anatomic Studies in Insane Asylums —Nissl made an urgent plea at the German Congress of Alienists, in September, for co operation in the exact study of the anatomic foundations of the psychiatry of the brain He proposed that a certain accepted region of the cortex should be studied by his method on a large number of brains in the various establishments, which will further the cause of science much more than a few single brains exhaustively studied —*Klin therap Woch* , September 25

THYROID EXTRACT

SOME RESULTS OF ITS ADMINISTRATION ON THE RED AND WHITE CORPUSCLES AND HEMOGLOBIN IN CASES OF ANEMIA ASSOCIATED WITH MELANCHOLIA

Presented to the Section on Neurology and Medical Jurisprudence at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo , June 7-10 1898

BY SAMUEL BELL, M D
MEDICAL SUPERINTENDENT, UPPER PENINSULA (MICHIGAN)
HOSPITAL FOR THE INSANE
NEWBERRY MICH

The field of thyroid therapy, in the light of our present knowledge, is quite limited, experimental data have accumulated during the last year indicating various results The most favorable, also the most reliable, were given by Ewald of Berlin, in epileptic psychoses, acromegaly, rachitis and Basedow's disease, to the International Congress of Medicine at Weisbaden, also by Professor Bruss of Tubigen, on goiter of the follicular variety, as being affected in a certain and prompt manner, cretinism is reported on by Schmidt, tetany and acromegaly by Schultz of Bonn

Since beginning a series of experiments in cases of anemia, accompanied, or preceded, by melancholia, I have also observed some recent results some of which were very good, obtained by Dr Babcock of the St Lawrence State Hospital, New York, in a variety of selected cases of mania and melancholia At the Upper Peninsula (Mich) Hospital for the Insane nine cases were under treatment in the first series, seven females and two males, all suffering from some form of metal depression

Blood examinations were made before treatment, weekly, during and afterward, consisting of the enumeration of the red and white corpuscles and the estimation of the percentage of hemoglobin in each case The counts were made with the Thoma-Leitz instruments, also by centrifugalization, the percentage of hemoglobin was estimated by Fleischl's hemometer In normal blood in adult life the average number of red cells per cm is estimated at about five millions for men and four millions five hundred thousand for women The normal number of white cells per cm is seven thousand five hundred In hemoglobin examinations 100 per cent is considered normal when using Fleischl's instrument

Case 1 —A K , female, age 27 Had been under treatment about three months, with very little, if any, noticeable improvement Strong symptoms of passing into primary dementia were present A selected diet, tonics, exercise and different forms of electricity were all utilized in her case, without any apparent improvement She was pale and anemic, with a phlegmatic temperament, and was hallucinated Liver and intestinal secretions inactive, complicated by constipation and mental inertia Thyroid treatment was begun, giving one 5 gr tablet three times a day , the dose was gradually increased until fifty grains were being taken daily This treatment was continued for one month The temperature and pulse were taken twice a day During the first ten days of treatment the temperature fluctuated between 98 and 99 4 degrees When the maximum treatment was given the temperature rose to 101 degrees, remaining there but one day, when it declined to normal, remaining there during the last week of treatment Pulse at beginning numbered 62, on the second day 50, on the tenth 100, and during the remainder of the month ranged between 98 and 72, the latter when treatment stopped Pulse increased in rapidity and volume as the temperature rose When treatment was discontinued there did not appear to be either physical or mental improvement, and for this reason it was no longer continued, her weight now commenced to increase rather rapidly and in a month she gained seventeen and one half pounds

Blood examination —Red cells were normal, or a little above, at beginning and remained so during treatment, until about one day before treatment was stopped, when they diminished about one million, they were about one sixteenth normal size Hemoglobin was below normal at beginning and increased about 10 per cent during treatment, 90 per cent at commencement, 81 third week and 77 at close White cells were below normal at beginning, increased 3460 the first week, dropped during the fourth week, and at the close there was an average increase of 2760 In this case the red corpuscles diminished in both size and number, while the white, as also the hemoglobin, increased

	Red corpuscles		Leucocytes	Hemoglobin
	Thoma Leitz	Centrifuge	Thoma Leitz	
Feb 22	4,544,000		5,400	70 per cent
Mar 1	4,736,000		8,860	72 per cent
Mar 8	4,560,000	3,696,000	8,660	75 per cent
Mar 16	4 776,000	4,032,000	5,040	81 per cent
Mar 22	4,704,000	4,368,000	8,160	77 per cent

Case 2 —M E, female, age 23 Profoundly depressed, with an anemic appearance Small amount of adipose tissue Had been under treatment for nearly five months, without any beneficial results No physical disease present When thyroid treatment was commenced the temperature was subnormal, 97 degrees, pulse 80, with cold extremities Mental activity very sluggish Second day after this treatment had begun, temperature increased 1 degree, on the tenth day it was 99 degrees, and remained there during treatment Three 5 gr tablets were given per diem, and the dose gradually increased until 35 grains were being taken daily The temperature reached its highest point when 25 grains were being taken The pulse in this case did not vary much with the change in temperature, during the last week of treatment it ranged from 100 to 116, being a difference of from 20 to 36 at the commencement of treatment, while the temperature remained normal or below This case was both stuporous and stubborn, was affected rapidly, even by small doses The cold extremities and surface generally was changed, the blood filling the superficial capillaries and continued so, with some improvement in mental activity, which lasted during treatment, no permanent improvement followed This patient had received, prior to being admitted at the Upper Peninsula Hospital, a very severe burn, which necessitated amputation of arm at shoulder and subsequently quite extensive skin grafting During the thyroid medication the old wound, which had almost healed, took on an irritative condition, retarding granulation quite seriously Physical condition did not change, although she now shows a gain of five pounds in weight

Blood examination —The red corpuscles were small and above normal in number from the beginning of treatment until the close, about five million per cm Leucocytes numbered 8330 at commencement and 5250 at close, showing a diminution of 3080 Sixty seven per cent of hemoglobin at beginning increased to 85 during the first week, second week 77, third 82 and fell to 64 at close of treatment, being lower than when treatment was begun This case differs from the others in that the amount of hemoglobin was reduced, also the number of white corpuscles, while the red cells were not perceptibly influenced

	Red corpuscles		Leucocytes	Hemoglobin
	Thoma Leitz	Centrifuge	Thoma Leitz	
Feb 24	5,072,000		8,330	67 per cent
Mar 2	5,528,000		7,650	85 per cent
Mar 9	4,992,000	4,516,000	6,940	77 per cent
Mar 16	5,032,000	4,312,000	8,350	82 per cent
Mar 23	5,956,000	3,696,000	5,250	64 per cent

Case 3 —H G, male, age 30 Treatment begun with 15 grains and increased to 45 per diem Before beginning treatment temperature was 97 degrees, on the third day 98, on the sixteenth 99 4, the highest point reached during treatment, dropping again to 98 and remaining there during the remainder of treatment Pulse, 72 at beginning, increased to 100 and dropping again to 80 when treatment ceased This case was of more than ordinary interest, a young man of good family became depressed and attempted suicide by cutting his throat with a meat ax After being received at the hospital, he was placed on appropriate treatment, such as tonics, exercise, gymnastics, games, etc, everything with a view to the removal of the cloud from his mental horizon His case did not yield to this line of treatment periodic depressed spells were becoming prolonged At this time he was placed on thyroids After two weeks' treatment, temperature began to increase, and *pari passu* the mental depression began to give place to a brighter more cheerful and observing condition so marked was the change in his general appearance that his friends, in visiting him, observed the improvement No relapse has occurred and the periods of mental depression which were quite frequent before, have entirely disappeared Patient was discharged, in every way much improved and, to all appearances, entirely recovered His physical condition was a great deal better having gained twenty pounds

Blood examination —Red cells were found to be normal or slightly below, both in number and size, at commencement numbered 4,728,000, and about the same at the close The leucocytes were below normal at commencement of treatment (5900) and at the close numbered 8,230, being an increase of 2330 Ninety one per cent of hemoglobin at beginning and 94 at the close This case showed a marked increase in the white corpuscles and a 3 per cent increase in the hemoglobin while the character and number of the red cells were not materially changed

	Red corpuscles		Leucocytes	Hemoglobin
	Thoma Leitz	Centrifuge	Thoma Leitz	
Feb 26	4,728 000		5,900	91 per cent
Mar 3	5,096,000		6,280	90 per cent
Mar 10	4,680,000	4,704,000	8,500	85 per cent
Mar 17	4,784,000	4,256,000	8,230	94 per cent

Case 4 —L B, female, age 36 Under thyroid treatment one month, commenced with 15 grains and increased to 30 per diem Temperature 98 5 when first dose was given four days later was subnormal, on the tenth day rose to 99 4 the highest during treatment, and then ranged from 98 to 99 during balance The pulse was slow at first, and remained so during the greater part of treatment, except during the last few days, when it ran up to 110 and 112 This patient's intellect was not very well developed had given illegal birth to a child Was anemic and did not respond to chalybeate and other adjuvants for the building up of the mental and physical condition She suffered from melancholia agitata and did not improve, either physically or mentally as the result of this treatment It is now four months since the treatment ended, but the same fixed delusions and hypochondriacal condition remains Her weight fluctuated and is now a little below what it was when treatment was discontinued No blood examination was made in this case

Case 5 —L H, female, age 33 Mother of four children Suffering from a mild form of melancholia with hallucinations Had been under treatment in the institution about eight months before beginning with the thyroids, without any benefit Commenced with the usual dose and increased to 25 grains daily Temperature increased about 1 degree almost immediately, and at the end of thirteen days reached 101 2 degrees, declining gradually to normal and not rising again during remainder of treatment Circulation increased gradually in conjunction with the temperature when the latter was highest the pulse was 100, showing an addition of 40 beats it being but 60 at commencement At the close of treatment there was no improvement, either mental or physical indeed the depression seemed to be more profound and a more anxious appearance generally Treatment was ended on December 22, and she was then placed on general tonics, together with electricity similar to that which had been given her prior to the thyroid treatment Her weight now began to increase during the first month gaining ten pounds, the second month eight pounds, and on the 23d of the third month, when she was discharged cured, her weight showed an increase of twenty two and one half pounds A dense mental cloud which seemed to hang over her less than three months before, and seemed to be deepening, after this treatment gave way to a brighter, happier, more cheerful and appreciative responsive condition, which can only be appreciated thoroughly by her family, friends and those having her welfare at heart No blood examination was made

Case 6 —E S, female, age 25 Mother of two children Depressed Had been considered mentally unbalanced for upward of four years before being received at the Upper Peninsular Hospital Had made an attempt to destroy her two year old child by burning Began taking 18 grains of thyroid daily, and increased to 27 grains in two weeks Temperature was 97 4 at beginning, on the third day increased two degrees, and remained at 99 4 during the balance of treatment with the exception of a brief interval, when it declined to about normal, but immediately rising again Examination of the urine revealed at first, traces of albumin with very few pus corpuscles, urea normal 2 8 per cent at the close of treatment, pus corpuscles had increased specific gravity increased from 1012 to 1026 Pulse had increased from [illegible] to 116 Two weeks after treatment ceased her weight had increased six and a half pounds

Blood examination —The [illegible]

also the hemoglobin, the le [illegible]

increased about one thous

	Red Corpuscles		Leucocytes	Hemoglobin
	Thoma Leitz	Centrifuge	Thoma Leitz	
Mar 12	5,072,000	4,704,000	7,540	94 per cent
Mar 19	4,884,000	4,704,000	7,690	90 per cent
Mar 28	5,040,000	4,368,000	7,640	80 per cent
Apr 2	5,176,000	3,696,000	6,950	82 per cent
Apr 8	4,364,400	4,368,000	7,030	83 per cent
Apr 15	4,704,000	4,256,000	8,850	80 per cent

Case 7—E A C, female, age 45 Suffering from melancholia, with delusions Would sit in the hall without apparently observing any object or person, from day to day Suffered from hemicrania Began by taking 16 grains and increased to 35 Temperature was normal at beginning, and was not increased throughout treatment, but decreased, being 97 degrees at the end of thyroid medication Circulation was much more affected than the bodily heat, increasing from 74 to 120 per minute during the first ten days of treatment Urinal examination showed pus corpucles, epithelium and traces of albumin present throughout treatment, specific gravity 1018, urea 1 2 per cent Weight remained practically the same during treatment, also after

Blood examination—In this case the red blood corpuscles were slightly decreased and the white increased, the latter about two thousand Hemoglobin remained substantially the same

	Red Corpuscles,		Leucocytes	Hemoglobin
	Thoma Leitz	Centrifuge	Thoma Leitz	
Mar 26	4,448,000	4,368,000	5,160	80 per cent
Apr 3	4,061,600	4,256,000	6,400	82 per cent
Apr 8	5,088,000	4,480,000	6,950	82 per cent
Apr 15	4,401,600	3,696,000	7,000	80 per cent

Mental influence—In the last two cases there was a marked change a despondent and forlorn appearance has given place to a brighter and more cheerful condition

Case 8—P F, male, age 44 Suffering from stuporous melancholia Began treatment with 15 grains per diem and increased to 30 Temperature was immediately affected, increasing from 98 to 101 on the third day after treatment had commenced On the sixteenth day it rose to 102, declining to 101, and remaining there during balance of treatment Pulse was not influenced so much as the bodily heat not varying more than twenty beats Notwithstanding the temperature was markedly influenced there was no improvement in the mental activity Pus as well as blood corpuscles and traces of albumin and epithelium were present in his urine In this case the bodily weight was not changed to any appreciable extent

Blood examination—The white cells, numerically, were not changed, the red cells were slightly diminished, while the hemoglobin was reduced 14 per cent

	Red Corpuscles		Leucocytes	Hemoglobin
	Thoma Leitz	Centrifuge	Thoma Leitz	
Mar 28	4,548,000	4,592,000	6,850	79 per cent
Apr 4	4,184,000	4,144,000	7 570	76 per cent
Apr 11	3,700,000	4,592 000	6,660	75 per cent
Apr 18	4,208,000	4,480,000	6,500	65 per cent

Case 9—E B, female, age 44 Mother of four children Suffering from melancholia gravis or hypo melancholia, great mental anxiety Impairment of motion and inhibition, which dated back about one year from the death of her husband, who was killed by an accident in a mine There was an entire suppression of the menstrual molimen Every remedy, therapeutic and otherwise, was exhausted in her behalf, without permanent benefit She began taking one 5 grain tablet three times a day on March 26, 1898, on the fourth day after beginning treatment the temperature dropped to 97 degrees Twenty grains were given, the system seemed profoundly impressed, the temperature rose to normal, dropping again to subnormal, treatment was relinquished on the eleventh day on account of the increasing exhaustion The pulse and respiration were increased slightly The systolic cardiac impulse very much decreased Lost eleven pounds in weight during the eleven days of treatment No improvement in mental or physical condition either during treatment or since it has ceased

Blood examination—Red corpuscles increased 728,400, leucocytes 1,330, and hemoglobin 7 per cent

	Red Corpuscles		Leucocytes	Hemoglobin
	Thoma Leitz	Centrifuge	Thoma Leitz	
Mar 25	3,624,000	4,144,000	5,200	70 per cent
Apr 2	4,362,400	4,368,000	6,530	77 per cent

THERAPY AND THEORY OF ACTION

There are, according to some very reliable authorities, two main theories advanced The first is the auto-infection theory—the gland having for its function the destruction of the natural toxins, without the latter we have the condition known as myxedema The second is the internal secretion theory—the thyroid being considered as a secreting organ The secretion is taken up by the lymph vessels and is necessary for the proper metabolism of the body, especially for nervous and connective tissue According to either of these theories, the administration of the dessicated gland supplies the lacking secretion, which may be some chemic substance that is necessary to health or even life Ewald, in a pithy sentence, states that the gland acts as an antitoxin against certain elements that appear as by-products of tissue change The exact constituents of this substtance have never been definitely made known An organic iodin compound from the sheep thyroid has been extracted, called thyro-iodin, and in the present state of our knowledge the weight of authority is in favor of this being the effective chemic agent in thyroid therapy

The rationale of this treatment is not very clear It may be of great value in mental diseases as a method of diagnosis, but it is difficult to comprehend just how this treatment could improve a case where degenerative changes have taken place in the cell structures Based on the theory of auto-infection, frequently cases have occurred where malaria, typhus and pleurisy are capable of developing in the blood antitoxins that have resulted in curing cases of mental disease It is not unreasonable to suppose that in cases of mental alienation due, it may be, to some toxin, rather than to a lesion of the brain, the action of the thyroid is to promote metabolism This being the case, the utility of thyroid therapy is obvious In the series of cases treated by me, I have observed that those who were not benefited are developing symptoms of organic disease and passing into a condition of chronic dementia, while in those who were improved, it is a reasonable deduction, on the antitoxin theory, that the condition was functional, and that cellular disorganization had not taken place Nine cases received the thyroid medication and were under close medical supervision, in five cases there was a marked change for the better, the other four were not, so far as we could observe, favorably influenced, physically or mentally, either during the treatment or since Three of the five who were improved began to increase in weight during the treatment, and two of them did not until after treatment was relinquished The pscychologic effect was observed almost from the beginning of treatment in those who were permanently improved

It was noticeable that the minimum dose would produce a systemic effect in some more rapidly than a maximum dose in others Every case requires close observation and the dose graduated in accordance with the effect produced upon the nerve centers and circulation, or in other words, every case must be a law unto itself Fifteen grains per diem was the maximum dose to begin with, in some gradually increased to fifty in accordance with indications

---

The Modern Magazine—Managing Editor—'How many pages have you?" Foreman—"Two hundred and twenty four" Managing Editor—"Two hundred and twenty four' That would be too bulky How is it proportioned?" Foreman—"One hundred and ninety pages of advertising and thirty four pages of reading matter" Managing Editor—"Bring me the proofs of the reading matter We will have to cut down to 200 pages"—*Ohio State Journal*

ACUTE MENINGITIS

OBSERVATIONS ON DIFFERENTIAL DIAGNOSIS AND TREATMENT

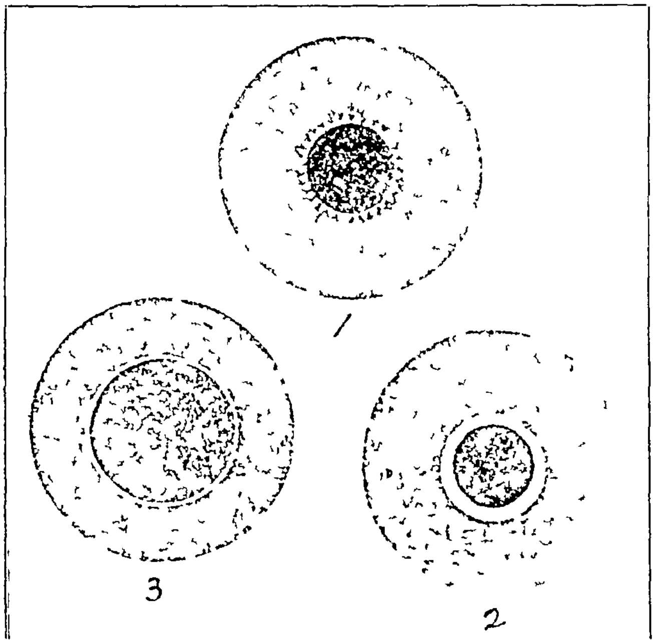
Presented to the Section on Neurology and Medical Jurisprudence, at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY DANIEL ROBERTS BROWER, A M , M D , LL D

Professor of Mental Diseases, Materia Medica and Therapeutics Rush Medical College Chicago University, Professor of Diseases of the Nervous System Women's Medical School Northwestern University Professor of Diseases of the Nervous System Post-Graduate Medical School

CHICAGO ILL

The differential diagnosis of the various forms of meningitis is, in my experience, often impossible There are, however, two methods of certain diagnosis, when available One is by lumbar puncture of the spinal cord, as recommended by Quincke and Ziemssen, and the bacteriologic examination of the withdrawn fluid to determine the micro-organisms which are present, and the other depends on the Skeer sign, described by me in a clinical lecture published in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Jan 7 1888, and by Dr Skeer of Chicago twenty years before The Skeer sign when present will enable a diagnosis of tubercular meningitis to be made very early It is due to the deposition of tubercle around the pupillary margin of the iris It shows itself first as a distant wreath of white clouds about a millimeter from the margin (see Fig 1) This sign occurs before any change has taken place in the size of the pupillary orifice After three or four days these minute cloud-like masses disappear and a yellowish-brown circle takes their place (see Fig 2), becoming more and more attenuated as the pupil dilates These secondary changes are doubtless due to degeneration of blood-vessels from the tubercular deposits Unfortunately, this sign is frequently absent, but when present is pathognomonic of tubercular meningitis



The treatment of the various forms of acute meningitis is very unsatisfactory, as you all well know, not only because of the almost constantly present nausea and vomiting but also because of the very high mortality The difficulty of medicating by the mouth led me to adopt, some fifteen years ago the method of inunction, first with mercury without any success and then iodoform with some success I prefer to use the 10 per cent ointment of iodoform and lanolin, believing that lanolin favors the absorption of the iodoform, this to be applied daily to the shaven scalp Absorption usually takes place promptly as I have been enabled to detect the iodin in the urine and saliva one hour after the inunction The amount absorbed can not be very great, as I have never seen the untoward effects that sometimes follow the use of iodoform in open wounds I have used in the treatment of a single case as much as 10 grams of iodoform

The following list of cases was seen in consultation with Chicago physicians from time to time and the results of treatment have been obtained from their statements

	No cases	Recoveries	Deaths
Dr J S Hunt (deceased)	8	6	2
Dr J W Fitzmaurice 2876 Archer Ave	6	4	2
Dr P H Conley, 477 Grand Ave	2	2	0
Dr M L Loevenson, 523 S Jefferson St	2	1	1
Dr W D Neel, 329 W Erie St	10	6	4
Dr David O'Shea, 109 W 21st St	7	6	1
Dr Wm Martin, 100 State St	2	1	1
Dr G W Reynolds, 1924 Arlington Pl	3	3	0
Dr D R Brower, 34 Washington St	5	3	2
Total	45	32	13

In one of the cases that died in the practice of J S Hunt, and in one of the cases I have reported as terminating fatally the Skeer sign was present, making the cases tubercular meningitis In the other fatal case I have reported, lumbar puncture determined the bacillus tuberculosis to be present

The following letter was received from Dr George W Reynolds

> You asked me to write up the histories of the three cases of cerebral meningitis which you saw with me in consultation Those cases date back a number of years and no records of them are now in my possession, although the patients' histories diagnoses and treatment are still vivid in my recollection I can remember that after all methods of treatment had been tried and no improvement and death seemed inevitable, you suggested shaving the head and rubbing into the scalp a 10 per cent inunction of iodoform daily This treatment was continued daily until marked improvement was evident, after which the frequency of dosage was lengthened to two or more days until the patient was convalescent In the first case, a child of 2 years, with all the characteristic symptoms of cerebral meningitis well pronounced who had been ill two or three weeks before you saw him At that time he was comatose, the fontanelle was open wide and the brain pulsations could be distinctly felt High temperature and general symptoms indicating a serious cerebral meningitis, with a very grave prognosis After a week or ten days of the iodoform treatment a marked improvement manifested itself, and the same line of treatment was pursued, but less frequently, until the child appeared perfectly well and was discharged cured I saw the patient a few days ago, now a boy 12 years of age and was informed by his father and mother that he was bright and well up in his studies at school The other two cases I have been unable to locate although I have tried to do so, consequently my delay in sending you these notes However I can assure you that they recovered and were under my observation for one or two years after they were treated by the same method and were, to all appearances, well Yours very truly
>
> G W REYNOLDS M D

This communication is presented to the Neurolog ical Section for the purpose of provoking a [illegible] on on the two important [illegible] ted [illegible] hoping to add somet [illegible] f k [illegible] these important ma [illegible]

DISEASES OF NERVES REQUIRING SURGICAL TREATMENT.

Presented to the Section on Neurology and Medical Jurisprudence at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY J. HERBERT AUSTIN, M.D., M.R.C.S., ENG.
CLINICAL SURGICAL ASSISTANT UNIVERSITY MEDICAL COLLEGE
KANSAS CITY, MO.

I appear before you, gentlemen, not as a neurologist but as a general surgeon. No specialty is entirely isolated. The work of any of us should interest us more or less. The best specialist is he who is well posted on subjects besides those in his own particular line of work.

The nervous system is the most wonderful system in the human body, connecting together, as it does, in some mysterious manner the mental and the physical. It has complete control of the physical, governing all our movements, both voluntary and involuntary. It depends largely upon the site of the lesion in the nervous system as to how grave will be the damage resulting. If in a terminal nerve, such as the ulnar, the parts supplied by it are rendered powerless and motionless, while an injury of the cervical region of the spinal cord reduces the body in an instant to a state of inaction, indifference and paralysis.

From what has already been said it will be seen that the treatment of disease and injury of the nervous system in so far as it interests the surgeon, affords an immense field for further study and research. This study is rendered further interesting from the fact that there is no system in the human body where recuperation takes place to such a marked extent. I am sure that it is a great pleasure to us all to note the very great advances that have been made in surgery of the nervous system within the past few years, so that cases are now successfully treated which but a few years ago would have been regarded as beyond human aid.

In considering the surgery of the nervous system we at once see that it is, of necessity, divided into three parts, namely: 1, surgery of the brain; 2, surgery of the spinal cord; 3, surgery of the nerves. In the third division we find two subdivisions: *a*, injuries to nerves, such as contusions, strains, compressions, rupture or laceration, puncture, division, foreign bodies in nerves; *b*, diseases of nerves requiring surgical treatment.

This is the portion of the surgery of the nervous system that I wish to touch on. There are seven under this heading that attract our attention: they are sciatica, neuralgia, muscular tic, traumatic paralysis, traumatic neuritis, new growths and tetanus.

SCIATICA.

This affection is often called a neuralgia, but it is in reality generally a neuritis or a peri-neuritis. There are two forms: primary, which is generally of idiopathic origin and usually a neuritis; secondary, which follows some affection of the pelvis, spinal cord or hip-joint and is often a neuralgia. The more common causes are exposure to cold or damp, especially after severe muscular exertion, and the pressure of pelvic tumor on the nerves. Various constitutional conditions, such as gout, rheumatism, syphilis and anemia, are often present. About four males suffer from this disease to one female.

Morbid anatomy.—As stated above it is generally a neuritis, the nerve is red and swollen but the nerve fibers are not often destroyed.

Symptoms.—Pain of a shooting character, which passes down the nerve, is the principal one. The pain is due to the implication of the nervi nervorum. The pain is always increased by any movement. Some spots, usually at the notch and in the middle of the thigh, are more sensitive than others, and become exquisitely painful on pressure. The neuritis in rare instances ascends and involves the cord. Wasting of the muscles occurs in protracted cases, but the reaction of degeneration can seldom if ever be obtained. The duration as well as the severity varies very much, but as a rule it is an obstinate affection, lasting for months, or even, with slight remissions, for years. Relapses are common, and the disease may be relieved in one nerve only to appear in another.

Diagnosis.—Determine whether the disease is primary or secondary to some affection of the pelvis, spinal cord or hip joint. Affections of the hip joint can be easily distinguished by the absence of tenderness in the course of the nerve and the pain caused by movement of the hip-joint or by pressure in the region of the trochanter. If sciatica exists, and the hip joint be sound, then the movements of the joint are free and unaccompanied by pain, unless flexion is carried far enough to render the nerve tense. A careful rectal examination should be made, and in women pelvic tumor should be excluded. Careful examination will usually distinguish between sacro-iliac disease and sciatica. Pressure on the nerve trunks of the cauda equina as a rule causes bilateral pain and disturbance of sensation, and as double sciatica is rare, these symptoms always suggest lesions of the nerve roots. Clearly defined differences usually exist between the severe, lightning pain of tabes and the pain of sciatica.

Treatment.—The internal treatment depends on the case, i.e., whether there are any constitutional conditions existing which require attention. Absolute rest in bed from three to five weeks fixing the leg on a splint to have as little tension on the nerve as possible, has proved to be especially useful. Osler recommends hydrotherapy, especially the warm baths or mud baths. He states that many severe cases are much relieved by a prolonged residence at one of the thermal springs. In severe cases local applications are often useful. Cold may be applied by means of ice, coil, etc. Counter-irritation, if desired, may be employed by means of a thermocautery or by blisters along the sciatic nerve. Massage is useful, press deeply down and draw the nerve away from the cord. Where the pain is extremely severe, deep injections into the nerve of cocain or eucain, $\frac{1}{8}$ or $\frac{1}{4}$ grain, will give great relief. Morphin, on account of its being such a dangerous remedy in sciatica, because of the great risk there is of the morphin habit being contracted, should be withheld as long as possible, and only when the pain is really unbearable. Never allow a patient to use a hypodermic needle. If milder measures fail then operative procedures should be tried. These are either acupuncture or nerve-stretching. Acupuncture is performed as follows: The patient is laid on his face and any tender spots located by pressure. The nerve should now be punctured by several needles. This will cause a sudden, sharp pain to shoot down the thigh. These needles, which should not be more than a half dozen in number, after being left in for a few moments, are removed and a permanent cure results.

Nerve-stretching.—There seems to be some difference of opinion as regards the value of this operation in sciatica Dr Weir Mitchell states that he never yet met a case where nerve stretching was necessary, while Erichsen says that this operation has been more successful in sciatica than any other painful affection for which it has been undertaken This operation was originally introduced by Nussbaum as a mode of treating intense neuralgia following injury But to Marshall belongs the honor of having first suggested its use for neuritis He was first to conclude that nerve trunks must contain sensory fibers, distributed in their sheaths, i e the nervi nervorum Since that Victor Horsely has clearly shown that medullated fibers terminating in tactile corpuscles exist in the perinsurium and epiceurium of all nerves From this fact, then, we may conclude that the pain and tenderness of the nerves in neuritis is explained by the pressure upon the nervi nervorum and new connective tissue Now, since in stretching a nerve the strain is first brought to bear on the sheath in which the nervi nervorum ramify it is easy to understand that they may be stretched or torn to such an extent as to destroy their conducting power, and thus render the nerve insensible without preventing its transmitting sensory and motor impulses through its proper tubules It is more convenient to make the incision about the middle of the back of the thigh than at the lower border of the gluteus maximus, because here the whole of the ham string muscles must be drawn inward and the nerve sought for external to them Expose the nerve by an incision parallel to its course, properly clean it from the surrounding tissues, and then raise it with a blunt hook on the forefinger Stretch it both centrifugally and centripetally, maintain the traction for about five minutes The force to be used varies with the size of the nerve The surgeon must decide as to the force to be used in each separate case Experiments go to show that the breaking strain of a healthy sciatic nerve is never under eighty pounds

NEURALGIAS

These are nerve pains which may or may not be due to organic lesion to functional disturbance of the central or peripheral extremities of the nerve or to neuritis in the course of the nerve Neuralgia may occur in almost any part of the body, but is most frequently found in the division of the fifth pair of nerves In some cases the whole or part of an organ may be affected, while in others one of the larger joints is the seat of very severe suffering In a third class of cases the extreme cutaneous sensibility is the most marked symptom, the patient wincing and suffering severely whenever touched, however lightly

Etiology —The causes of neuralgia are numerous They may be either constitutional or local There may be some source of irritation, or an abnormal condition of the ganglionic cells of the sensory nerves may exist Depressing influences of all kinds are very apt to produce it, and hysteric temperament may cause a spinal and articular form while various peripheral irritations give rise to some of the more obscure forms of neuralgia Among the causes may be mentioned exposure to cold, pressure on the nerve toxic influences, overwork, and various constitutional conditions, such as rheumatism, general debility, anemia etc Neuralgia occurs oftener in association with anemia than any other constitutional condition, and this fact explains its frequency among females

Symptoms —Pain is the most important symptom It is of a spontaneous nature occurs in paroxysms runs along the course of the nerve by the nervi nervorum, and is of a darting, burning character These paroxysms, lasting from a few moments to some hours, may return at regular intervals Certain tender points exist along the course of the nerve, usually where the nerve passes from a deeper to a more superficial position These pains are supposed to be caused by sudden explosions in the ganglionic cells in the gray matter of the cerebrum, where all nerve fibers terminate Other symptoms of neuralgia are numbness, transient hyperesthesia vomiting, and various vasomotor disturbances

Diagnosis —This is usually easy From organic disease of a part it can be distinguished by the presence of great superficial tenderness by a hysteric temperament and by the absence of all the other symptoms of organic disease, from inflammation, by the intermittent nature of the pain, by its occurring in hysteric subjects, and by the absence of the constitutional symptoms of inflammation When inflammation and neuralgia exist together the diagnosis may be difficult Here the presence of superficial tenderness and a relief of the pain by deep pressure points to neuralgia, while in inflammation there is no tenderness of the surface, and on deep pressure the pain is extreme

Treatment —The treatment varies with the cause If the cause can not be removed, the disease is incurable, although the suffering may be relieved by suitable means If the patient's general health is poor, then the neuralgia will recur unless he is built up with tonics and general hygienic measures For the pain, local applications of a sedative nature, such as opium, aconite, belladona or chloroform, are often useful Some of the newer remedies—antipyrin, phenacetin, or antifebrin—should be tried These failing, then morphin may be tried, but with care, the patient never being allowed to use the hypodermic needle Cocain, hypodermically, usually relieves the pain for a time Acupuncture may be tried, or aquapuncture, i e, the injection of distilled water beneath the skin Freezing the part with ether spray often proves useful The continuous electric current may be used, placing the positive sponge near the seat of pain, and with the negative gently rubbing the neuralgic spot until the skin is slightly reddened, and until it causes a slight tingling or burning, but not pain In the most intractable cases the surgical means that may be tried are nerve stretching or excision of a portion of the nerve Of the two operations the latter is to be preferred, but too often the pain returns after it In fact, the operation can only be of use when the pain is peripheral due to some irritation existing between the part cut and the ends of the nerve If the neuralgia depends upon any central cause, or if the irritation exists higher up than the point divided, the operation has always eventually failed although at times a temporary cessation of pain for a few weeks has occurred

MUSCULAR TIC

Muscular tic also known as histrionic spasm is an almost incessant twitching of the facial muscles It often prevents sleep and at all times causes great annoyance to the patient As for its etiology it is thought that some form of irritation of the nerve the nature of which [illegible] causative agent. At times this disease is associated with neuralgia of the fifth nerve. In the severer cases the nerve should be stretched. This operation when properly done, causes complete paralysis of the muscles of the face, which lasts a longer or shorter period, according to the force used in stretching. As the nerve recovers its function, however, there is always more or less return of the twitching, so that this operation must be looked upon as a relieving agent merely, and not as a curative one. The operation may be performed as follows: Make a curved incision just behind the ear from the root of the mastoid process to about the level of the angle of the jaw. Next, carefully clean the anterior border of the mastoid process and the edge of the tendon of insertion of the sterno-mastoid muscle. Now turn the parotid gland forward. Crossing the wound at about right angles will be seen the border of the digastric muscle, and parallel to it the nerve emerging from the middle of that part of the mastoid process which is exposed. As the internal jugular vein is in close proximity, great care must be used in cleaning the nerve, when once clear it should be firmly stretched with two blunt hooks.

TRAUMATIC PARALYSIS

This may be brought on by one of three causes: Injury of brain, injury of cord, or injury of nerves. When due to cerebral injury it may vary from a localized paralysis to a hemiplegia. When due to injury of the cord it varies from a mere impairment of sensation and motion to complete paraplegia, with loss of sensation in the paralyzed parts.

Treatment.—If possible remove the cause of the paralysis, e. g., pressure on the brain or cord, and a complete recovery often may be speedily brought about. In treating any paralysis, we should, if possible, restore the muscles to their usual activity as soon as can be. The tendency to atrophic and other changes should be counteracted. Always see that a paralyzed part is warmly clothed, kept clean and not unduly pressed upon. Passive motion of joints along with attempts at voluntary movements proves very beneficial. Electricity, however, gives the best results in paralysis. It increases the vascularity of a part, improves the nutrition of muscles, nerves and other structures, prevents, retards or removes spasmodic contractions, and it seems that the long continued use of electricity improves the nutrition of the part of the nerve-center from which the nerve or nerves which supply the affected muscles originate, thus restoring the function of a muscle or nerve when its activity is impaired and thereby bringing about restoration of voluntary movements.

TRAUMATIC NEURITIS

This may be a result of any injury of a nerve, but generally arises from bruises or strains and is sometimes connected with gout or rheumatism. It is rarely found in amputation stumps unless union has taken place by second intention with unhealthy inflammation and suppuration, thus pressing on the bulbous end of the nerve and causing great pain and muscular spasm. The disease is really a chronic inflammation slowly ascending the nerve, and extending in extreme cases to the cord, giving rise to sclerosis. The symptoms of traumatic neuritis are intense pain and tenderness in the line of the affected nerve. Usually there is weakness or paralysis of some of the muscles supplied, but in some cases there are spasms. There may be an intense neuralgic pain in the parts supplied by the nerve in some cases, in others, there may be numbness, tingling or anesthesia.

Treatment.—The treatment consists of operative and non operative measures, milder cases being treated without operation. The tender nerves should be freely blistered and the nerve kept at rest. Great relief is afforded in some cases by a long strip of capsicum plaster applied along the line of the nerve. Constitutional conditions must be treated by suitable remedies. Electricity in the earlier stages of the disease not only is of no use, but may do positive harm. In cases where all these milder efforts have failed, the operations which may be resorted to are three in number: 1, excision of the bulbous ends of the nerves, 2, division or excision of part of the affected nerve, 3, nerve-stretching.

1. *Excision of the bulbous ends of the nerves*.—In some cases where a painful stump is caused by the nerve being implicated in the cicatrix, relief may be given by this operation. In other cases, where the symptoms are due to chronic ascending neuritis, the operation, although giving relief for a time, must fail to produce a cure.

2. *Division or excision of portions of the nerve*.—The smaller nerves are often divided or partly excised in cases of persistent traumatic neuralgia, and as a last resort in extreme cases, portions of the larger nerve trunks have been excised. These operations in some cases give a perfect cure, in others only temporary relief. At times a section of the whole brachial plexus does good.

3. *Nerve stretching*.—As stated while considering the treatment of sciatica, this operation acts beneficially by stretching the sheath in which the nervi nervorum ramify. This stretches or tears the nervi nervorum so as to render them insensible to pressure upon them of inflammatory exudations and new connective tissue.

NEUROMATA

A neuroma is a tumor situated on a nerve. There are two classes of neuromata: the true, consisting of a nerve substance proper, and the false, made of fibrous tissue. A true neuroma is generally made up of nerve fibers only, or very occasionally of ganglion cells. A false neuroma, also a fibroma, is made up of white fibrous tissue, the nerve fibers, as a rule, being stretched over it, or passing along one side, very seldom being involved in the tumor mass proper. A fibroma which springs from the epineurium is by far the commonest form of neuroma. The tubercula dolorosa are small, painful, subcutaneous nodules. Some authorities consider these growths as true fascicular neuromata, while others look upon them as fibromata, and it seems to have been pretty clearly proven that they are not always made of nerve fibers. By far the most interesting form, however, is the plexiform neuroma, in which several hundred tumors are found on the various nerve cords. In one celebrated case, over 1100 distinct tumors were found on the nerves of the body. These cases are usually of congenital origin. Traumatic neuromata may follow a wound or partial division of a nerve. Of course more or less of a bulbous enlargement must be looked for normally on the central end of every divided nerve and will usually cause no trouble. Sometimes, however, the growth becomes too large, becoming excessively tender, and causing the most intense neuralgic pain.

Treatment—Unless causing inconvenience by the pain it causes or by its bulk, a neuroma should be let alone Excision is the only available treatment when it becomes necessary to do something to relieve the patient Complete relief usually follows the excision, but amputation of neuromata often recur In excising, if possible, remove the tumor from the nerve without cutting across it This can generally be done If not, then try and save a few fasciculi, which will preserve the continuity of the nerve and hasten the restoration of its functions Where complete division is necessary, try and suture the divided ends, but even when this can not be done, restoration of function sometimes occurs

TETANUS

Tetanus is an infectious disease marked by tonic spasms of the voluntary muscles with distinct exacerbations These contractions may be confined to the muscles of the lower jaw (trismus), or to certain other groups of muscles, or they may involve the muscles of the whole body Tetanus may occur at any age It is often epidemic among children, when it is known as trismus neonatorum Males suffer oftener than females by about four to one This disease is caused by a specific bacillus—the tetanus bacillus, first discovered by Nicolaier, and first obtained in pure culture by Kitasato This bacillus is motile, grows at ordinary temperatures, forms a slender rod with rounded ends and may grow into long threads The requirements of Koch's postulates are fulfilled by this bacillus, which is present everywhere, in surface soil and dust This fact explains why it is that wounds which have been infected by dust or earth are so often followed by tetanus

Morbid anatomy—The anatomic changes in tetanus are slight indeed, when one considers the severe symptoms There are no characteristic pathologic changes found in the brain, cord or neighboring peripheral nerves, only an extensive proliferation of cells being observed on microscopic examination

Symptoms—About the first to be noticed are a slight stiffness of the neck, tightness about the jaws and difficulty in mastication At times a chilly feeling or actual rigors have preceded these symptoms Tonic spasms of these parts now occur, the condition being popularly known as lockjaw As the disease progresses, the features become fixed or convulsed from time to time, the angles of the mouth are drawn up, causing a sardonic grin—risus sardonicus As the disease advances spasms of the voluntary muscles occur, which cause very severe pain The muscles of the back are usually attacked next in order of frequency after the muscles of the face The body is bent backward so as to form a complete arch—the patient resting on the heels and head a condition known as opisthotonos The rectus abdominalis muscle has been torn in the spasm Sometimes the condition known as arthotonos, in which the entire body is perfectly rigid may occur Less often the body is drawn forward—emprosthotonos—and still more rarely to one side—pleurosthotonos The slightest irritation is enough to bring on a spasm, in which the most distressing pain is felt Profuse sweating usually occurs during a paroxysm The temperature in some cases is normal throughout, in others there is a marked pyrexia from the outset, the temperature reaching 105 or 106 degrees before death, and being 109 or 110 degrees, and even higher soon after death When death occurs it is usually due to exhaustion from the frequent tetanic spasms, but sometimes death occurs during the paroxysm due to heart failure or asphyxia

Diagnosis—In well-developed cases it is easy From strychnin poisoning it may be told by the fact that there is no rigidity, and that the jaw muscles are never involved early, if at all In hydrophobia there is no stiffness of the jaws, and in the paroxysms the muscles of the neck and back are not affected

Prognosis—In all cases the prognosis is grave The mortality in the past has been about 75 per cent According to Hippocrates if patients live past the fourth day they usually recover Favorable indications are absence of fever, late onset of the attack and localization of the spasms to the muscles of the face and neck From recent results it would seem that the death-rate in cases of tetanus in the future will be very much lowered by use of the tetanus antitoxin

Treatment—The treatment is both local and constitutional The local treatment aims to bring the wound into as healthy a condition as possible This must be done by thorough cleansing and swift antiseptic measures The local treatment is of the highest importance, from the fact that the toxic agents are produced by the bacilli at the seat of injury Tillmans recommends the use of the 1 per cent solution of nitrate of silver, which destroys the bacilli and the spores very rapidly and certainly in one minute It is doubtful if any good is obtained by nerve stretching I now wish to speak of the constitutional treatment This consists of general measures and a specific one We must try and remove all irritation and support the patient's strength by plenty of nourishment, as tetanus is a disease causing profound shock and debility Have bowels and kidney active Keep patient in a dark room with one attendant Feed patient by catheter passed through the nose when necessary Nutritive rectal injections may be used Spasms are greatly relieved by chloroform given at repeated intervals, but it is more satisfactory to keep the patient thoroughly under the influence of morphin given hypodermically Spinal irritation is greatly relieved by ice along the whole length of the spine The ice can usually be left on for six or eight hours, but as it is such a powerful depressing agent, the condition of the patient must be closely watched Many drugs have been lauded for use in this disease From a physiologic standpoint, calabar bean is the drug that deserves the most attention, as it is antagonistic to the tetanic spasms caused by strychnin It has, however, proven not to be a specific for tetanus Extract physostigmatis, $\frac{1}{8}$ gr should be given every hour until complete contraction of the pupil occurs, and this must be followed by stimulants to counteract the resulting depression The London *Lancet* recently reports a case caused by the use of this drug

Specific treatment—This consists in the use of the antitetanic serum I firmly believe from results I have seen and from recent reports published, that any physician failing to use this remedy in a case of tetanus is guilty of criminal negligence As a rule about 15 c c given twice a day, if necessary, will suffice Every case will be a law unto itself I believe further, that we should use this serum as a prophylactic measure in cases where we have reason from the nature of the wound, to fear that tetanus will follow Having always found them reliable I very much prefer the serums produced [illegible] & C

The conclusions I arrive at

1 Sciatica, often called a neuralgia, is generally a neuritis or a perineuritis

2 The pain in neuritis is due to the pressure on the nervi nervorum, and therefore nerve-stretching is very beneficial

3 Neuralgia, while it may occur in any part of the body, most commonly affects the fifth cranial nerve

4 Neuralgia in very many cases is associated with anemia

5 We should use electric treatment in cases of traumatic paralysis

6 Antitetanic serum should be used as a protective agent in doubtful cases

7 The mortality in tetanus will be very much lowered in the future

---

ECHINOCOCCUS OF THE LUNGS

Presented to the Section on Surgery and Anatomy at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY CARL BECK, M D
NEW YORK CITY

As is generally known, echinococcus disease is produced by the tænia echinococcus, a parasite whose domicile is in the intestines of the dog, sometimes perhaps also of the cat Its length is four millimeters It has four joints, the posterior of which is larger than the remaining three together The implantation of this parasite causes the formation of hydatids, which grow into cysts and secondary proliferative cysts in various organs of the human body, particularly the liver

The knowledge of the echinococcus disease dates as far back as to the time of Hippocrates, who described a "*jecur aquâ repletum*" which would open into the abdominal cavity The same author speaks of an operation on an echinococcus cyst, before which operation adhesions between abdominal wall and cyst should always be produced by the use of artificial moxæ The true parasitic origin of the disease, however, was not demonstrated until Göze, in 1782, recognized the characteristic heads and hooklets of the tænia

The echinococcus disease is found in all parts of the world, yet with the exception of Iceland, some parts of Australia (Victoria and Tasmania) and the vicinity of Irkutsk, Russia, where it is endemic, it is but rarely observed Especially rare is the echinococcus disease in this country, which explains fully why the American literature on this most interesting subject is so very scant[1]

The predilection of the echinococcus for the liver is quite natural The vena portæ leads it by the shortest and broadest route, just as it carries the pyogenic embolus from an infected focus The echinococcus is found much less frequently in other organs, for instance in the medulla of bones, the pleuræ, the spleen the intestine, the heart, and still more rarely in the lungs The literature of echinococcus of the lung is so meager that the following report may deserve record

An Austrian, 38 years of age, 7 years in the United States, with the following family history His father died when 61 years of age, from pneumonia, his mother of a brain lesion at 71, a sister died of tuberculosis of the lungs, five brothers are alive and well The patient never had much association or contact with dogs or cats About six years ago he had an attack of pleurisy with effusion He was at first treated medically, and later the serous fluid was aspirated After a slight improvement, lasting about nine months, he was taken sick again This time he coughed violently, the expectorations containing much blood He was treated then for consumption, and was refused admittance at several hospitals, on the ground of the diagnosis At last he was admitted to a home for consumptives

About two years ago a slight swelling under the right angle of the scapula appeared, and in the course of about four weeks it became slightly painful, sero pus was revealed on incision, and some improvement followed, but the cough, accompanied some times by vomiting, persisted as before At last the expectoration became fetid, and the house physician, while examining the sputa for tubercle bacilli, detected hooklets and fragments of cyst wall, the diagnosis of gangrene of the right lung, caused by the invasion of the echinococcus, was made, and the patient was sent to St Mark's Hospital for operation It may be added that jaundice was never present

Nov 22, 1897, when I saw the patient for the first time I found the following conditions A tall, emaciated man, a flat thorax, which expands symmetrically, the left lung is normal, but on the right side, anteriorly and below, there are tympanitic sounds, and also râles during inspiration, posteriorly and below there is slight dulness, correspondingly, bronchial breathing and râles are found, the heart is normal, pulse 106, temperature 100 5 F, the urine contains indican The patient suffers intensely under vehement coughing spells, especially in the morning, which are always followed by expectorations of a most offensive odor Sometimes there is dyspnea and also hemoptysis The sputa amounts to about 200 c c in twenty four hours, and contains pus corpuscles in abundance There are fibers of the characteristic alveolar type, pigment, hematoidin crystals, disintegrated blood corpuscles, phosphate crystals, streptococci and leptothrix Neither the bacterium coli commune, which was particularly looked for, nor the tubercle bacillus, could be discovered, nor were any hooklets or cystic fragments found When the patient expectorates little, the dullness posteriorly is more pronounced, and the respiratory sounds are less audible than in the morning after copious expectoration Then the bronchial respiratory sounds become more pronounced, again above the region of the fifth, sixth and seventh ribs, where sometimes amphoric breathing can also be perceived Diagnosis Lung cavity, caused by gangrene, induced by the invasion of tænia echinococcus

November 24, after the usual aseptic precautions, pneumotomy was performed In view of the weak pulse of the patient digitalin had been administered during the last forty eight hours, and a saline infusion twice during the last twenty four hours Chloroform was given carefully An incision reaching from the middle axillary line to the transverse process of the sixth dorsal vertebra was made, directly down to the bone, and by keeping the edges of this wound far apart it was possible to expose the fifth and seventh ribs, which now, together with the sixth, were resected After a portion of the soft tissues also, with the costal pleura, was removed, the lung collapsed slightly, but soon assumed its former expansion The edges of the cavity being well protected with sterile gauze, a strong aspiratory needle was pushed forward into the center of the exposed area, which yielded blood only After various efforts in different directions were made in vain, the stylet tip of a Paquelin's cautery (such as I have advised in former publications on the technique of the operation for abscess of the lung, (Forty eighth Annual Meeting of the AMERICAN MEDICAL ASSOCIATION), was introduced carefully into the center of the exposed area After a little over an inch of the lung tissue had been perforated, a stream of rust colored pus of a most offensive odor escaped with a loud noise, and at the same time the patient collapsed rapidly A sponge was quickly forced into the opening, and under artificial respiration and energetic stimulation the patient rallied On the following day the cavity was carefully washed, and much pus and detritus discharged, and it was drained by a large rubber drainage tube, surrounded by iodoform gauze The secretion was copious during the next four weeks, but its repeated microscopic examination revealed nothing extraordinary

During the first week after the operation the temperature varied between 99 and 101 F, while the pulse was 90 to 100 The patient slept but little, and was tortured by coughing spells which were nearly as violent as formerly The respiration on an average was from 30 to 36 As it seemed that there was some retention, probably due to the irregularity of the draining canal, I introduced my finger into the cavity, dilating it thoroughly a large quantity of bloody pus was discharged again, and by a violent cough a thick membrane, rolled together like a cigarette, was expelled, which proved to be a piece of a cyst wall The patient now improved steadily, the discharge lost its odor and became very much less in quantity, and the temperature, pulse and respiration became normal On February 6 the tube was discarded, and on February 21 the wound was found healed All the patient complained of now was a sharp pain, which extended into the epigastrium when he tried to inspire deeply Pressure above the large curvature caused considerable pain, so that when hyperacidity and nausea was noticed, a stomach ulcer was thought of, although no hematemesis was present The treatment of these symptoms showed no result The more the retraction of the large scar proceeded, the less intense these pains became, and so it was evident at last that the pain was caused by the process of scar formation in the lung tissue, during which the diaphragm, which undoubtedly had become adherent in the course of the disease, was drawn upward in this vicinity Under the use of respiratory gymnastics and electricity these attacks disappeared slowly, and the patient was discharged cured June 20, 1898

---

[1] Besides this case I had a chance but once to operate upon another echinococcus It concerned a man aged 34 years a German by birth who had resided in this country for eight years and who also denied any particular correlation to dogs The patient had shown an enlargement above the anterior surface of the liver No jaundice Several times a light serous fluid was aspirated which although a faulty procedure was always followed by a slight improvement May 26 1892 he submitted to laparotomy at St Mark's Hospital Recovery was speedy and perfect

Whether the original implantation of the parasite in this case took place in the lungs (primary echinococcus of the lung), or indirectly from the pleura or liver by slow perforation, is not fully evident from the previous history While the localization of the abscess, which had been incised two years ago, might slightly be looked at in favor of an origination in the liver, the symptoms of an affection of the lungs were predominant from the early beginning of the disease That well-pronounced symptoms were absent for a long period, could be explained by the slow growth

A resumé of the diagnostic points may be condensed as follows 1 Whenever the symptoms of a chronic affection of the lungs become apparent, and pneumonia, circumscribed effusions, pyothorax and infectious diseases (particularly tuberculosis) can be excluded, the possible presence of echinococcus should be thought of, especially so when at a later stage there is violent cough and expectoration of blood and pus of a most offensive odor 2 In those rare cases where the examination of the sputa fails to show the characteristic elements of the parasite, it should be considered that at the early stage of primary echinococcus the lines of dulness are irregular according to the shape of the cysts, and sharply pronounced, while later on, when it comes to the formation of an abscess cavity, they are replaced by tympanitic sounds Accordingly there is also no abnormal temperature at the beginning, while later on the characteristic irregular temperature curve points to pus retention 3 Sometimes there is an expansion of the thoracic wall and a dilatation of its veins If the abscess wall approaches the chest wall, bulging of the intercostal spaces becomes noticeable

From this case we learn that the diagnosis of echinococcus of the lung is usually difficult Its rarity prevents its general and thorough study, but it can fairly be assumed, on the other hand, that it is more frequent than is supposed, because on account of its difficult recognition it is often taken for a different disease With our better means of investigation and our greater zeal, this disease will in the future be more frequently detected, and pneumotomy, the only proper therapy, will be more often resorted to

---

RECENT EXPERIENCES IN MILITARY SURGERY AFTER THE BATTLE OF SANTIAGO

BY N SENN LIEUT COL U S V

CHIEF OF THE OPERATING STAFF WITH THE ARMY IN THE FIELD

(Concluded from page 1171)

Case 18 —Scanlon, Company K, Third Cavalry was wounded on the second day of the battle of Santiago The ball entered the chest through the third rib midclavicular line on the right side, passed downward and backward and escaped in the gluteal region on the same side, after perforating the ilium (Fig 21) The ball must have passed through the lung, diaphragm and liver Hemoptysis slight, but distressing nausea, vomiting and pain Admitted to the hospital ship *Relief* July 15 At that time he had a constant temperature ranging between 100 and 102 degrees F , vomiting diarrhea and rapid emaciation Great pain over the liver and ascending colon Hemothorax and marked swelling in the region of the liver and abdominal cavity on the right side Examination of urine negative Owing to the great debility and pronounced anemia it was not deemed advisable to resort to laparotomy

Case 19 —Harry Mitchell, Company C, Seventh Infantry, was wounded July 1 The bullet entered over the right acromion process, passed through the apices of both lungs and escaped through the second intercostal space above the right nipple (Fig 22) No hemoptysis at any time dry cough and a moderate hemothorax on the right side Has suffered from quotidian form of malarial fever, which is yielding to quinine A speedy and complete recovery is expected

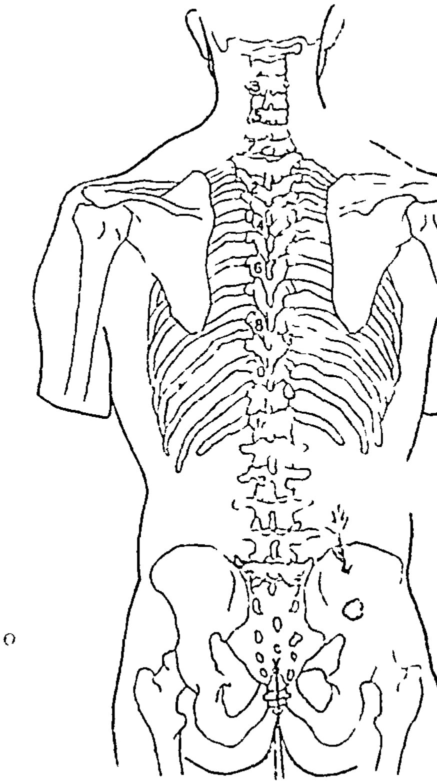


Fig 21a

Case 20 —Lieut John Robertson, Company G, Sixth Infantry received a gunshot wound of the upper third of right thigh about 10 o'clock July 1 The profuse hemorrhage was partly controlled by an improvised tourniquet applied by an officer of the line He was carried to the rear by the men of his company, and while thus conveyed he was shot in the left breast the bullet entering just below the left nipple and passing through the chest in an antero posterior direction (Fig 23) He was wounded a third time, the bullet grazing the inner side of the left knee The first dressing was applied in the First Division Hospital The fracture of the thigh was dressed by the use of a long splint Fr he was July 9 to the Third Division Hosp days brou on board the *Relief* At th healed The thigh wou showed great displace The fracture was then double inclined plane, consisting of a hollow posterior splint made of the sheath of the leaf of the cocoa palm, to which was added an anterior thigh splint of wire gauze After dressing, the limb was placed in a sling No pulmonary or pleuritic complications

Case 21 —Henry T Darby, Company D, Thirteenth Infantry, received a perforating gunshot wound of the chest July 1 The ball entered on the right side, above the angle and at the outer border of the right scapula, passed through the chest and escaped through the fourth intercostal space in front, on the opposite side, two inches outside of the mammary line (Fig 24) When the patient came on board the *Relief*, July 9, he complained of great difficulty in breathing, he was pale and greatly prostrated, temperature 102 degrees F The physical signs indicated the presence of a copious pleuritic effusion on the left side The chest was opened by an incision through the sixth intercostal space, in the axillary line, July 11 About three pints of fluid blood escaped Gauze drainage The lung expanded rapidly and the patient commenced to improve

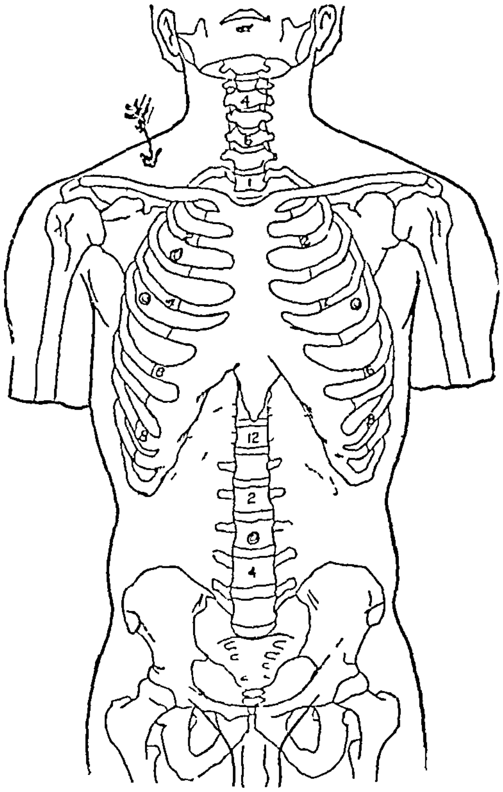


Fig 21b

No further doubt can remain in regard to the difference in the mortality of gunshot wounds inflicted with the large and small caliber bullets The cases related above appear to prove that the danger incident to gunshot wounds of the chest made by the small projectile, consists in complicating injuries involving the heart and large blood vessels, and that in the absence of such injuries the prognosis is favorable It seems that empyema is a rare remote result of such injuries Rib resection and free incision and drainage of the chest in such instances must be reserved for cases in which a positive diagnosis of empyema can be made The safest and best treatment for hemothorax requiring operative interference is tapping and evacuation by siphonage

GUNSHOT WOUNDS OF THE ABDOMEN

Our recent experience in Cuba has more than ever confirmed my conviction that not infrequently cases of penetrating gunshot wounds of the abdomen will recover without active surgical interference For years I have maintained as the result of clinical experience and experiments on the cadaver, that a bullet may pass through the abdomen on a level and above the umbilicus in an antero posterior direction without producing visceral injuries demanding operative intervention Elsewhere the results of my experience and experimentation concerning such injuries have been published If the bullet traverses the small intestine area it is more than probable that from one to fourteen perforations will be found

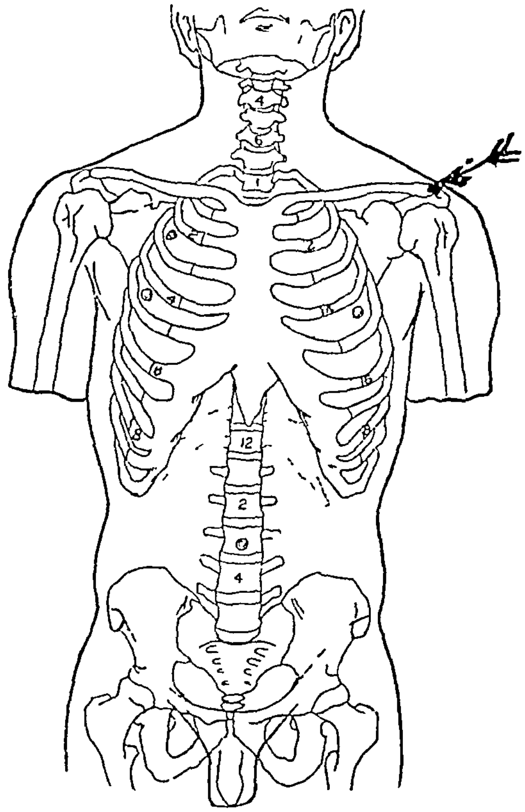


Fig 22

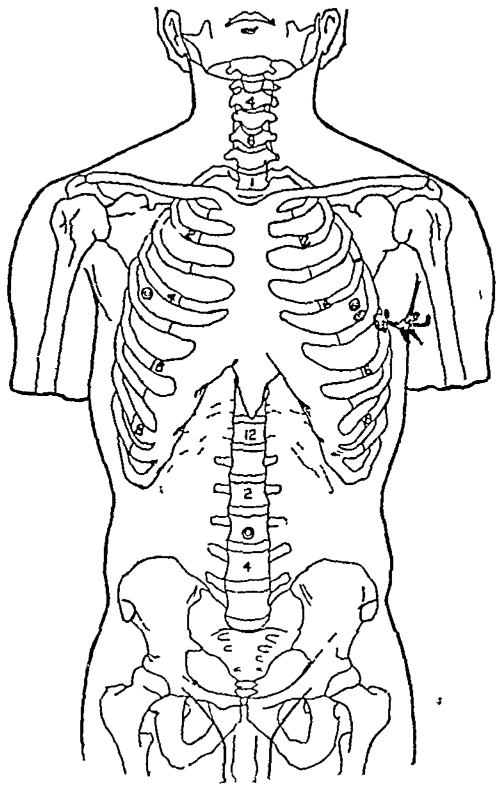


Fig 23

Four laparotomies for perforating gunshot wounds of the abdomen were performed in the First Division Hospital, the only ones, to my knowledge, during the Cuban Campaign

All of the patients died This unfavorable experience should not deter surgeons from performing the operation in the future in cases in which from the course of the bullet it is reasonable to assume that the bullet has made visceral injuries which would be sure to destroy life without surgical interference In other cases the employment of diagnostic tests for the purpose of demonstrating the existence or absence of intestinal perforations will enable the surgeon to decide what course to pursue Abdominal section is always justifiable in cases of internal hemorrhage sufficient in amount to threaten life

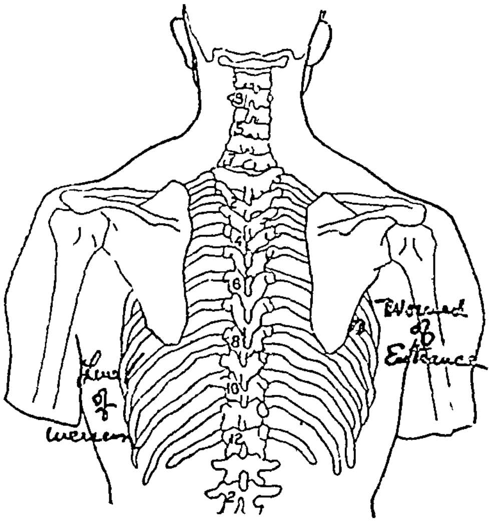


Fig 24a

A number of cases of gunshot wounds of the abdomen have been related in connection with gunshot injuries of the neck and chest, in which the cavity of the chest and abdomen and their contents were implicated at the same time, and which are on the way to recovery without laparotomy having been performed I have seen a number of cases of perforating wounds of the abdomen in the First and Third Division Hospitals that were on a fair way to recovery without operation before they were sent home on transport ships In most of these instances the bullet wounds were either in the umbilical region or one of the iliac fossæ The following case presents features of more than usual clinical and surgical interest

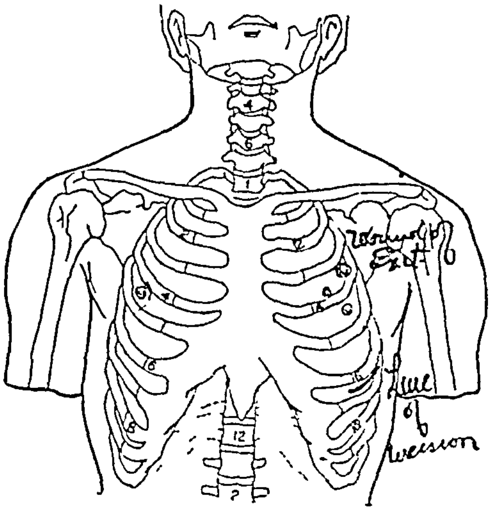


Fig 24b

Case 22 —J F Taylor, Company D, Tenth Cavalry was wounded July 2 At the time the injury was received he was in the ventral prone position The bullet entered the left shoulder in the infraspinatus fossa one inch below the spinous process of the scapula, and passed downward and inward and lodged under the skin in the median line, two inches above the umbilicus (Fig 25) Hemoptysis considerable during the first day, when it gradually subsided He complained of great pain and tenderness in the right side of the abdomen No vomiting or symptoms of more than a circumscribed peritonitis An abscess formed in the abdominal wall, which was opened July 20, and the bullet was removed From this time on the patient improved rapidly

GUNSHOT WOUNDS OF THE EXTREMITIES

It is a source of gratification to know that very few primary amputations were made for gunshot injury of the extremities All of the surgeons realized the importance of conservative measures in the treatment of such injuries, and limited amputation to cases in which the condition of the soft tissues precluded such a course A number of secondary amputations became necessary to save life in cases of infected compound fractures, usually complicated with injury and infection of the adjacent joint Two cases of traumatic aneurysm are now on board the *Relief*, one an aneurysmal varix, the other an aneurysm of the femoral artery

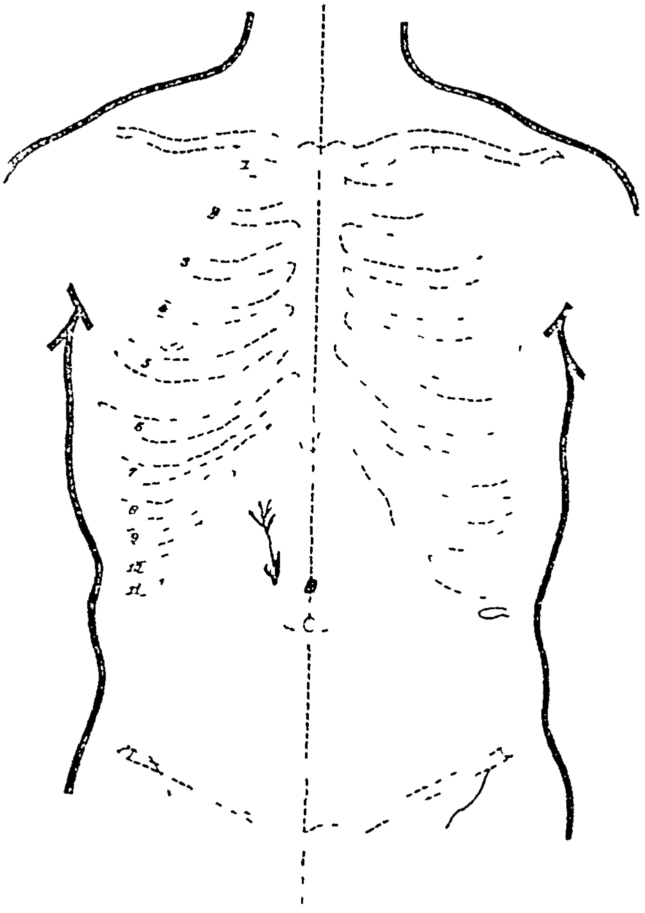


Fig 25

Case 23 —Captain Mosher, Company G, Twenty second Infantry, received a bullet wound July 1, during the advance on Santiago Those who saw the patient first assert that the hemorrhage was severe, and that the patient lost consciousness He was removed to the First Division Hospital and transferred July 10 to the Third Division Hospital and the following day he was brought on board the *Relief* I examined the patient at the front five days after the injury and confirmed the diagnosis made by the attending surgeons, who had recognized the anatomic nature of the aneurysm

The wounds healed by primary intention in less than two weeks One wound is in the middle of Scarpa's triangle, and the other at the level of, and one inch posterior to the great trochanter on the same side From the fact that there is, as shown by the radiograph, a piece of the jacket of a bullet in the right popliteal space, it is probable that he was wounded by a plunging fire and that the bullet inflicted the latter wound after emerging from the wound in Scarpa's triangle The wound in the popliteal space is suppurating Patient is very anemic and weak In the triangle directly under the wound there is a pulsating swelling in the direction of the femoral vein, which extends to Poupart's ligament Fremitus and the characteristic bruit extend a considerable distance above and below the communicating opening between the artery and vein The treatment consists in rest and tonics General health of the patient is improving, but there is no change in the local condition The mental condition much impaired since the injury is gradually improving

Case 24 —John J Welch, Company M, Second Massachusetts Volunteers, was wounded July 1 The bullet entered the middle and back of Scarpa's triangle, three inches below Poupart's ligament, directly over the femoral artery, and escaped at a point corresponding with the gluteal crease and to the outside of the femur on the same side (Figure 26) Not much hemorrhage A well-marked aneurysm developed, presenting all the physical signs characteristic of such a pathologic condition The swelling is somewhat elongated, a little larger than a hen's egg, and has not increased in size since the patient came on board the hospital ship The leg is somewhat edematous and painful A number of gunshot fractures of the thigh and leg have become infected and are now being treated by establishing free tubular drainage and resorting to frequent or continuous antiseptic irrigation Owing to the want of reliable plaster of Paris, we had to resort to various kinds of splints, single and double inclined plane, in effecting immobilization The sheath of the leaf of the cocoa palm has served as an excellent material for this purpose There is every prospect that most of these cases will utimately recover with useful limbs

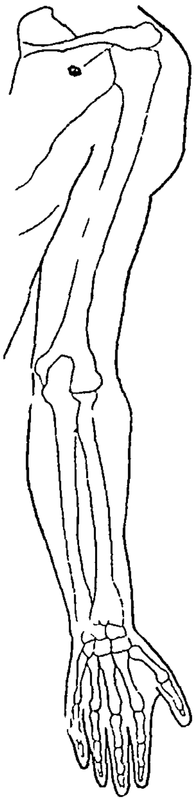


Fig 25b

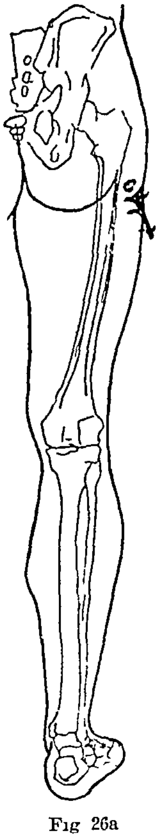


Fig 26a

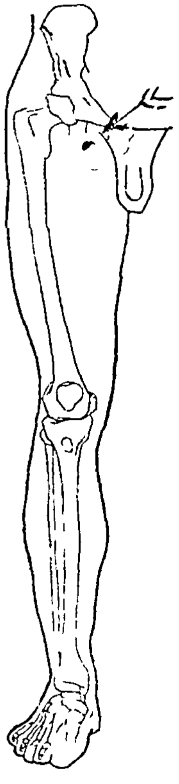


Fig 26b

In conclusion I desire to thank Acting Assistant Surgeons Metcalfe, Torney, Greenleaf, Hartsock, Morrow and Schultze for valuable assistance in preparing this communication

SOCIETY PROCEEDINGS

Chicago Academy of Medicine

Regular Meeting, Oct 14, 1898

Dr George F Butler occupied the chair

Dr G F Hawley of Chicago presented a paper entitled

CHRONIC POST NASAL CATARRH

He said that the title is applied to a low grade of chronic inflammation located in the post nasal space The condition is found at all periods of life, from the nursing infant to the nonagenarian It is so prevalent in America that it has been entitled by Mackenzie and others "American Catarrh" Whether this prevalence is due to climatic influences or to predisposing factors in those living on this side of the Atlantic, is a mooted question That post-nasal catarrh may be associated with a neurotic diathesis, due to degeneracy, and also to intra utero vaginal states, can hardly be questioned The functions of life are more or less easily disturbed in such cases, resulting in a predisposition to all types of disease especially those affecting the glandular system It is particularly noticeable in the torpid and erethistic types of the tuberculous diathesis, characterized by very light or very dark hair, light or dark eyes, a dark, pallid or light complexion, much perspiration, small blood vessels, slow, feeble or rapid pulse and want or excess of energy in mental and physical functions Nowhere is there a richer supply of glands than in the post nasal space, hence this is naturally affected early by the condition mentioned In nearly 90 per cent of all chronic catarrh the post nasal space is affected It has been claimed that a perfectly healthy post-nasal space can hardly be found in this country The far reaching baneful effects of this disease can not be questioned, since many secondary disorders affecting the upper air passages and bronchi are due to post nasal catarrh It is the *bête noir* of the singer and public speaker It is the frequent cause of suppurative and catarrhal inflammation of the middle ear both in the young and old It is a strong factor in producing deafness in after life This constant state of inflammation disturbs the circulation, and by causing congestion and hypertrophy of the turbinates, prevents free drainage and obstructs to a greater or less degree the passage of air through the nose

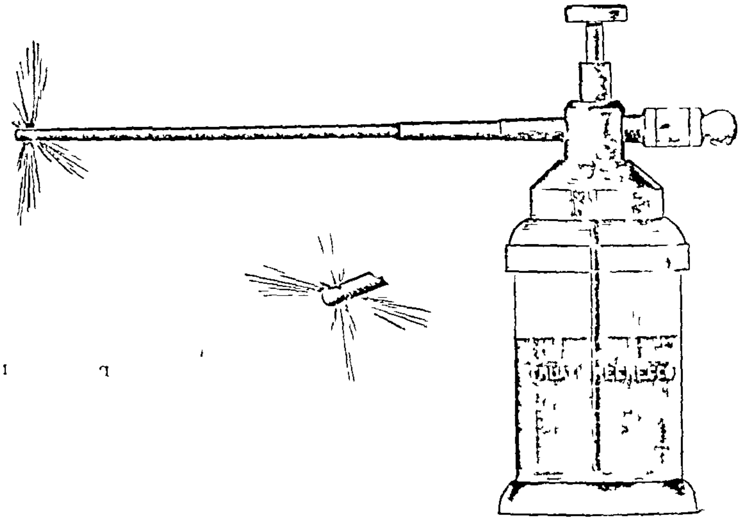
The causes of this disorder are divisible into predisposing and exciting Judging from the extensive and early manifestations of this disease, the predisposing causes are inherited or congenital, from maternal leucorrhea, etc The exciting causes are sudden changes of temperature, and diseases affecting the upper air passages, such as measles, scarlet fever, diphtheria, etc The symptoms are so well known that it is hardly worth while to repeat them here

The clinical aspect of the disease varies according to the age of the patient and the duration of the trouble In the early stage, particularly in the young, the post nasal space is frequently found more or less filled with masses of tissue, giving to the touch a sensation similar to that of angleworms (adenoid growths of Meyer) This mass is easily broken down and exceedingly vascular Later on, instead of masses of tissue, isolated growths or nodules occur, more or less evenly distributed over the vault, distinct and independent of each other These, in the early stage of the disease, are also exceedingly friable Later these growths become fibrous in character and are difficult to remove This form of the disease is usually associated with granular pharyngitis Often, as in cases of, old chronic suppurative inflammation of the middle ear, the mucous membrane appears swollen and soggy, seemingly soaked with mucus or serum Again the mucous membrane, though generally healthy in appearance, presents, in the median line, folds of hypertrophy tissues These are parallel to each other and run upward from behind the soft palate to the vault In all these conditions the mucous membrane is highly congested, causing that sense of fullness so distressing to the sufferers from this disorder He has also found at the median line and near the vault, single cystic growths or swellings about the size of a split bean, smooth to the touch and with the sides gradually running into the adjacent mucous membrane This is easily destroyed by the finger, exposing a pocket like depression with smooth and hard walls Occasionally the mucous membrane is covered by highly vascular granulations, which, though hardly visible on examination, give to the finger a sensation as if passing over velvet or plush All these abnormal conditions not only prevent a cure, but cause the many distressing symptoms associated with this form of the disease The importance, therefore of a thorough examination and treatment of the post nasal space in all catarrhal affections of the upper air passages can not be too strongly urged upon the profession In no other way can the practitioner expect to accomplish any permanent good, as here lies a strong factor of causation

The prognosis is good if seen in time and treated properly If not, the condition gradually grows worse, affecting the neighboring parts and producing ear complications and finally inflammation of the pharynx, larynx and bronchial tubes Due to disturbance of circulation, the nose becomes gradually closed by thickened mucous membrane, until its natural function is almost entirely destroyed, causing mouth breathing with all its ill effects

The treatment is constitutional, surgical and medicinally local Constitutional treatment depends upon the condition of the individual It should tend to the building up and supporting of the general health But few cases of post nasal catarrh can be cured or even relieved without surgical interference, the removal of all outgrowths and diseased tissues Local applications, in whatever way applied, are for thoroughly cleansing and stimulating the parts affected Up to the present time attempts to cleanse and medicate the post-nasal space have proven unsatisfactory The anatomic relations of the parts are such that to thoroughly cleanse and medicate the diseased tissues by any instrument in use is practically impossible It is due to this fact, more than to the obstinacy of the disease, that a larger percentage of cures does not result The spray is the best means to accomplish this end As generally used by the profession, it is open to serious objections While the atomizers furnished by the instrument makers may thoroughly cleanse the anterior chamber of the nose and the pharyngeal walls, they can force but little medicament into the post-nasal space in the form of spray The spray soon becomes a stream which flows along the inferior meatus until it falls either into the pharynx or, by the aid of the soft palate, passes out into the adjacent nostril On account of the extreme sensitiveness of the mucous membrane lining the nasal passages, the practitioner is, moreover, restricted in selection of medicament and in its strength Silver nitrate, for example, one of the best remedies in treating post nasal catarrh, can be used, if at all, only in very weak solution, on account of the strong reaction produced in the nose The nose, whether healthy or diseased, must receive the full effects of all medicament intended for the post nasal space alone If the attempt be made to spray back of the soft palate, the time allowed for the treatment is so short, from gagging of the patient, that but little effect can be produced upon the diseased tissues The same objection exists to the use of powders The brush is not only disagreeable to most patients, but gives unsatisfactory results as well

One object of this paper is to bring to notice an improved instrument which overcomes many of these difficulties It is so constructed that it can be inserted through any nostril, no matter how small, until it reaches the post nasal space where a medicament, by means of a spray, can be applied directly and forcibly against the entire diseased surface The strength of the medicament is graduated by the amount of spray used, which again is gauged by means of a small set screw at the head of the bottle containing the medicament



Dr **William L Ballenger**—Dr Hawley's thesis treats of a condition, the relief of which often baffles the efforts of the rhinologist. The very stubbornness of the condition tempts him to devise some new method or instrument for treating it. His new instrument may be good or it may be bad but in any event he overlooks the etiology and pathology of the condition He presumes that some medicament sprayed into the naso pharyngeal space by means of his device, will cure a large percentage of cases so treated We regard the so called post nasal catarrh as a symptom of one or more conditions which are usually found in the nose A few instances illustrating the point are 1 Polypoid degeneration located in the posterior part of the nasal chamber would, by occluding the nares and giving rise to an acrid discharge into the post nares excite an inflammatory action of a low grade in the mucosa of the post nasal space 2 An inflammation of the posterior ethmoidal or sphenoidal cells would give rise to a discharge into the post nares, thereby giving rise to catarrhal inflammation of the membranes of the parts 3 Dry rhinitis rhinitis with collapse, and atrophic rhinitis, diminish or abolish the supply of moisture which is physiologically supplied to the inspired air The nasopharynx and pharynx attempt to supply the deficiency Overstimulation results, and we have chronic post nasal catarrh as a result 4 Post nasal adenoids are attended by the same conditions So one might continue to name conditions which give rise to so called post nasal catarrh The point I wish to make clear is that post nasal catarrh must be first thought of as a result of one or more antecedent conditions After having recognized it as such, we must determine which of them are present in the case under consideration Having determined the cause or causes we are ready to think of the treatment If the catarrh is caused by nasal polypi we may hope for relief by removal of the same If caused by catarrhal or suppurative inflammation of the ethmoidal or sphenoidal cells, we must cure these conditions before hoping to relieve the post nasal catarrh If hypertrophy of the posterior ends of the inferior turbinated bodies exists, we remove them before addressing particular attention to the post nasal space And so we can not say any particular method or instrument will cure chronic post nasal catarrh When Dr Hawley says that hypertrophies of the nose disappear after his spray treatments of the post nasal space, he certainly is in error Hypertrophies do not disappear so easily If an hypertrophy exist it will only disappear by surgical interference When Dr Hawley accuses post nasal catarrh of causing most nasal disorders, I think he has the cart before the horse It is a well recognized pathologic fact that the post nasal disorder is usually a secondary, and not a primary, affection I must therefore, disagree with almost every proposition set forth in Dr Hawley's thesis I recognize that chronic post nasal catarrh is somewhat relieved by post nasal washing but I do not believe any considerable number of cures result from such treatment.

Dr **Ries** wished to ask Dr Hawley as to the influence of the maternal parturient canal in producing adenoids in the child as he had understood from the Doctor s paper that the gonococcus of the maternal canal exercised an influence in producing chronic conditions of the mucous membrane of the child leading up to adenoids

Dr **Kiernan** said that in adenoids two factors had to be taken into consideration—the constitutional condition and the local exciting factor Adenoids very frequently occurred in degenerates and, all other things being equal the gonococcus was most likely to be present in the vaginas of degenerate women, or of women who had degenerate husbands The lat est researches on the subject with which Dr Kiernan was acquainted were those of Dr O'Toole of San Francisco, which had been reported in the last volume of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION The gonococcus was an exceedingly obstinate infector of mucous membranes, and the effects of its presence were certainly conducive to secondary mixed infection by the streptococci and staphylococci Hence it could be seen that children born of mothers infected by gonococci might not only have contagious ophthalmia, but also nasal and buccal disorders

Dr **HAWLEY**, closing the discussion — Dr Ballenger is in error when he states that I claimed in my paper that medicaments sprayed into the naso pharyngeal space by means of my device will cure a large percentage of cases so treated I did say, however, that but few cases of post nasal catarrh can be cured or even relieved without surgical interference, also that the anatomic relations of the parts are such that to thoroughly cleanse and medicate the diseased tissues by any instruments in use is practically impossible, and it was due to this fact that a larger percentage of cures did not result The spray, or some local application, as I expressly stated, constitutes adjuvant treatment Surgery alone, while it may remove the cause, rarely cures the secondary disease of the mucous membrane So far as my device is concerned, I simply claim that it offers a superior method of applying such medicaments as may be deemed advisable by the surgeon

The term post nasal catarrh, as now used, does not imply a symptom alone, but a disease, a low form of inflammation of the mucous membrane with its many glands and follicles, and presenting various clinical and pathologic conditions, some of which I have herein noted Whether some or any of these conditions depend upon preexisting trouble in the nose, I neither affirm nor deny That nasal trouble is often due to preexisting disease in the post nasal space, I think can at least be conceded When we note the frequency of the disease, its early manifestations, its baneful effects upon the ear, the throat, and even the bronchial tubes, can we not feel assured that it is also a strong factor in producing trouble in the nose, especially when we see, as I have seen in children, all these conditions—not only in the ear, throat, etc , but in the nose itself—improve by treating the post nasal space I think the Doctor is mistaken in his statement that it is a well recognized pathologic fact that post nasal disorder is usually a disorder secondary to nasal affections, and not a primary one, that is, if he understands post nasal catarrh as I understand it—an actual inflammation existing in the post nasal space, and not merely a running at the back of the nose due to polypoid or sphenoidal disturbances Post nasal catarrh can and does exist independently of any nasal trouble, due to constitutional dyscrasia, especially noticeable in the tubercular and weakened type of the Xanthous variety of mankind That post nasal catarrh is frequently caused by a lithemic diathesis, as described by Musson, Robinson, Allen and others, I think cannot justly be questioned, and that it is found in the newly born, through maternal leucorrhea, as described by O'Toole, must also be admitted "Post nasal catarrh" is a bad term to use, admitting of too many views as to its meaning, but it is the best we have at present It is due to this fact, I think, that Dr Ballenger and myself differ so materially regarding the etiology, pathology and treatment of this disease

Dr **CARL THEODOR GRAMM** presented a paper on the subject of

IMPLANTATION OF FOREIGN OBJECTS IN THE MAXILLÆ

He explained the paper to be a preliminary report of a study of bone degeneration Its practical side dealt with the possibility of implanting in the processes of the maxillæ, and having firmly encapsuled there, substitutes for the roots of teeth that have been lost by decay, trauma, or pyorrhea alveolaris—substances other than ivory, or roots of living or desiccated teeth, all of which are prone to resorption The author reviewed the character of the maxillæ and the phenomena of bond regeneration in them and pointed with emphasis to, citing a number of experiments and authorities in support of the claim that the recuperative forces in this bone are markedly in advance of other bones of the body He then went on to say "whether in the presence of a mechanic irritant, a substitute for natural roots such as I will describe below, from this bony structure, rich in resources for repair and readily adaptable to altered conditions, would develop a sclerotic envelope for the substitute, or whether the process would be one of degeneration and sloughing is the question to be weighed It is a question taking us at once into the field of bone resorption and regeneration, bone inflammation and its sequels " The author cited and criticised the experiments and conclusions of thirty nine authorities who have studied the phenomena of bone development His own experiments, which were carried only through the preliminary stages, were performed upon six dogs, and consisted in removing an upper pre molar in each of them, freely enlarging the socket and implanting an artificial root made of lead, which was held firmly in position by a mechanic device The apical portions of these lead roots were bulbous, and at their middle were shallow grooves, which, when filled in with fibrous or osseous tissue, would favor their retention Four of these dogs were killed in from three to six weeks after the operations, and sections of the jaws removed in order to demonstrate the development of new bone under various conditions, As the result of this work, he holds that further experiments, in which sufficient time is to be given for the solidification of new growth, will verify the hypothesis which formed the basis of this preliminary work, to wit, that a mechanic irritant such as he proposed, will under favorable conditions cause a sclerotic envelope to be formed about it sufficiently firm to withstand the pressure from articulating teeth He seeks an analogy in the chronic osteitis in which no rarefaction of bone occurs, in which new growth slowly ossifies, and the Haversian canals and cancellous spaces diminish—a condition commonly known as osseo sclerosis The article was illustrated by photo micrographs and lantern slides from the author's laboratory

Dr **EUGENE S TALBOT** — About twenty years ago, Dr Younger first brought prominently before the profession the implantation of teeth, however, the better educated men of the profession looked upon this practice unfavorably He claimed that a tooth which had been out of the mouth indefinitely could be cleaned by scraping off the peridental membrane and debris, and disinfected, and, after drilling a hole in the jaw bone and being implanted, would produce a new peridental membrane, and apparently be as good a tooth as any He went so far as to state that the tooth of a mummy which had been dead for thousands of years would be implanted into the jaw of a patient at the International Medical Congress, held at Berlin, and that it would grow firm and become useful indefinitely This was done, but the operation was unsuccessful, the tooth only lasting a few days Many teeth have been implanted, but a very small number have proven a success I have never heard of or seen a case where a new membrane had been produced These teeth have been treated by the system like any other foreign body, and expelled either bodily or by absorption Therefore, I have never taken kindly to this operation The essayist has undertaken some very valuable experiments, and I wish to congratulate him upon the work he is doing Much may be learned from it He has not, however, brought us any tangible consideration this evening His work is only fragmentary, and no definite results have been presented The work is so incomplete that it is hardly consistent to bring it before this body this evening Such work requires much time and many experiments to give us definite results I trust he will continue his work and, when complete, give us material of great value

Dr **A E BALDWIN**—This is a subject that has been of very great interest to me I have not made any original investigations myself, and have consequently been more interested in these experiments than I otherwise would be While congratulating the writer of the paper upon his experimental work, I can not help but agree with the previous speaker in concluding that the experiments are on a line which will not be productive of any great benefit Ten years ago, in an interview with Dr Younger, he claimed to me that these operations of implantation of teeth, which are directly in the line of this paper, would be recognized as a great success all over the country in a few years I told him then, as I say now, that if the principles laid down by Dr Younger, which are apparently the same as those of the writer of this paper, are true, we shall have to relearn our histology and physiology Nature sometimes tolerates these foreign bodies simply in a mechanical way, but it seems to me as though we have not evidence of any natural union between the implanted bone or tooth and the alveolar process

Dr **GRAMM**, in closing the discussion—It is true that the work is incomplete and does not present final conclusions I hesitated somewhat on that account to bring it before this body, but concluded finally, after having found abundant precedent, to do so I believe it is quite frequently the case that scientific bodies lend an ear to notes of experiments that are preliminary The criticism which Dr Talbot passes upon Dr Younger does not apply to the work under consideration The resorption of an osseous structure implanted is a probability recognized by histologists fifty years ago The foreign material implanted in the jaws of these dogs is non absorbent, hence the interest in this work does not center in the fate of the tooth root implanted, but rather in the degree of toler ance exhibited by the osseous tissue of the alveolar process *It has not been proven that the alveolar process in particular*, this structure of exceeding vitality, will not tolerate a foreign substance, and no measure of general statement, unless founded upon experiments made directly upon the maxillæ, can be accepted as criticism of undoubted value

The Second Northern Congress of Internal Medicine

Held at Christiania, Norway, in August

This congress gathered a representative assemblage of Scandinavian physicians from the Northland countries, and even one from Scandinavian Chicago

ORGAN THERAPY

Reiersen reported encouraging results from the use of "testicle extract," especially in tabes, 12 cases rendering morphin unnecessary, but the general trend of opinion seemed to be unfavorable

Schiodte of Copenhagen stated that he had been extremely successful with thyroid treatment in obesity, combining it with moderate under feeding, but plenty of albumin He declared the profession over timid in regard to thyroid treatment, and too apt to transfer to obesity the disturbances caused by it in myxedema, which should not be compared with it at all

Faber called attention to the cutaneous hyperesthesia of certain portions of the abdomen which sometimes accompany gastric troubles, (25 of his cases) but yield to faradization, etc Others confirmed his experience and warned against the mistake of diagnosing a gastric ulcer from this undoubtedly hysteric symptom

ARTERIOSCLEROSIS

/ Professor Edgren's address on this subject was based on a study of 124 cases He found syphilis the most frequent antecedent (age, 40 to 46 years), next alcoholism (age 51 to 53), hereditary, malaria and lead poisoning No special cause could be discovered in 12 cases, (average age 66) evidently the pure senile form

Professor Runeberg treated the subject from the clinical and therapeutic point of view, classifying arteriosclerosis as 1, the local or typic syphilitic form, affecting the arteries of the brain or the aorta, 2, granular atrophy sclerosis of the smaller and medium vessels, with secondary hypertrophy of the heart, and 3, generalized sclerosis of the large and medium arteries—the senile type He advised prophylactic measures to insure regularity in the functions—diuresis, gymnastics, etc with potassium iodid continued for several years, tonics, and antisyphilitic treatment as indicated

Prosector Gade described the anatomic alterations in this affection, which seem to be of a purely degenerative character, suggesting injury to the tissues of a chemic nature

Professor Laache disputed this toxic etiology and attributed the chief role to the arterial pressure, citing the rarity of the process in the pulmonary arteries

Mygge emphasized the "Importance of Radiography in the Diagnosis of Aneurysm of the Aorta"

Rasch stated that twenty five aneurysms of the aorta were discovered in the course of 3165 necropsies at Copenhagen Syphilis was certain in 56 per cent, and probably in 82 per cent He calls the aneurysm forming process a chronic fibrous aortitis

Storm Bull reported two cases in which he had based his diagnosis on the pulsation in the larynx, confirmed by the necropsy

Hanssen described certain accidental heart sounds, observ that a whistling sound in pericarditis indicates synechia

Professor Medin noted the increasing frequency of "Morbus Barlowi" in Stockholm, among children with syphilitic inheritance, rachitis etc He described fifteen observations with four deaths Three of his cases had no trace of rachitis He found fresh lemon juice the most effective treatment

Hallarger commented on the comparative temperature in the rectum and axilla as an aid in the "Diagnosis of Hysteria" There is no difference between them, as in normal conditions, or it is reversed, sometimes the axillary temperature is the higher by two to three tenths of a degree

Professor Gram endorsed peronin as a valuable acquisition, to take the place of morphin, using twice the dose He has found it effective in sixty cases of neuralgia, nervous sleeplessness and tuberculous cough

Ustvedt reported that Widal's sero test failed in over 26 per cent of the cases in a recent extensive epidemic of typhoid, while it had resulted positively in 100 per cent during the previous epidemic

Professor Laache closed the scientific communications with an address on "Paroxystic Tachycardia," which he considers a neurosis

The Christiania physicians own a commodious building for their local gatherings, which was the envy of many visitors, and the excursions to the sanitaria, etc., in the neighborhood, aroused much enthusiasm for the beautiful scenery and general appointments The Congress will meet at Copenhagen next year

SELECTIONS

The Rabietic Bacillus—Foll, Rivolta and Spinelli claimed to have detected a bacillus the specific character of which was made highly probable by Sanfelice, who, employing a special staining process, demonstrated its presence in large numbers in the spinal cord of a boy who had died from hydrophobia Memmo of Rome confirmed the observation of Sanfelice and proved the virulent character of the micro organism, which he detected in several cases of rabies, but quite recently he has succeeded in cultivating it in artificial media, and in reproducing by inoculations with these cultures the disease with its distinctive characters, in dogs, rodents and birds respectively These experiments and observations, which fulfilling the most stringent demands of bacteriologic criticism, leave no room for doubt, are described in the *Centralblatt für Bakteriologie* He found the microbe in the cerebro spinal fluid and the substance of the brain and spinal cord, in the saliva and parotid gland, and in the aqueous humor of four dogs dying from the natural disease, and of rabbits, guinea pigs and pigeons, in which it had been produced by inoculation It grew better in fluid than in solid media, the best being bouillon with glucose slightly acidulated with tartaric acid The growth did not become manifest under a week, and was easily arrested by "air infection," as through the access of dust from the laboratory Inoculated with cultures of the fourth generation purified by successive plate cultures, guinea pigs and rabbits developed symptoms of paralysis of the hind limbs, etc, after from eleven to twenty days, and died from the paralytic form of the disease With dogs the inoculation was prolonged to from thirty to sixty days, when they were attacked with all the symptoms of typic natural rabies Though Memmo does not suggest the application of his discovery to the prophylaxis of hydrophobia it is not impossible that artificial cultures may be found capable of definite attenuation so as ultimately to simplify the methods adopted by Pasteur —London *Lancet*, September 17

Destruction of Locusts by Arsenic—Physicians are so frequently consulted regarding crop pests, that we reproduce, in part, an account of the means found successful in Natal, South Africa, in combating the locust scourge It is quoted from the *London Times*, Sept 23, 1897 The mixture used is prepared by heating four gallons of water to boiling point and then adding one pound of caustic soda As soon as this is dissolved, one pound of arsenic is added, after which the liquid is well stirred and boiled for a few minutes, care being taken that the fumes are not inhaled Being poisonous, the mixture is kept under lock and key, but, when required for use, half a gallon of it is added to four gallons of hot or cold water, with ten pounds of brown sugar A still better preparation is made by adding half a gallon of the poisonous liquid to five gallons of treacle Maize stalks, grass, etc, dipped in the mixture are placed along the roads and in the fields and the material can also be splashed with a whitewash brush upon anything which the locusts are known to have a liking for Attracted by the odor of the sugar or treacle over a distance of as much as 100 yards, the locusts will eat of the mixture and die They are eaten by other locusts, and in a few days time the ground may become strewn with the dead bodies of the insects With ordinary care no risk of poisoning any human being is incurred while the small quantities of the material on a piece of grass or maize stalk is said to be insufficient to injure stock of any kind

Fowls have been known to feed without injury on the arsenic destroyed locust The evidence adduced indicates that "hoppers," however numerous, can be destroyed in a few days, and the crops thus saved from their ravages Should the winged locusts swoop down later in the season, the crops, in virtue of the vigor acquired from their early unchecked growth, will be in a far better condition to withstand attack Arsenic is quite effective in destroying flying locust, but, as they come and go very suddenly, it is difficult to have the poison in readiness at the critical moment, and hence the most deadly blow can be dealt at the pest when it is in the hopper stage One Natal cultivator cleared his farm, occupying 700 acres, of locusts in ten days by means of the arsenical mixture As is well known, arsenic forms the basis of most of the sheep dips in common use, and it may be that the efficacy of arsenic as an insecticide in the fleece of the sheep will find a parallel in its application as a locust destroyer in the vast wheat fields of the Argentine and elsewhere

PRACTICAL NOTES

Radiography of Fetal Lungs —Atelectasis is readily distinguished in a radiograph of a fetal lung, and can thus be demonstrated in court in doubtful cases —*Gazz d Osp*, September 4

Potion for Whooping Cough —Koplik recommends the following in the dose of half a teaspoonful three times a day Tincture of digitalis 1 gm, antipyrin 2 gm, elixir paregoric 4 gm, syrup of tolu 60 gm —*Semaine Méd*, October 19

Extraction of an Incarcerated Pessary —With the Gigli saw, the accessible portion of the pessary is sawed off, and the pessary can then be revolved until the plane left by the excision is brought opposite the projection that opposes its exit, when it will easily slip out —*Semaine Méd*, October 19

Carbolic Gangrene —Ponzio claims that gangrene following the use of a phenicated solution is due to the compression of the bandage arresting the circulation If a standard solution is used and non compressing bandages ordered, neither the druggist nor the surgeon are responsible for the gangrene, which, if it occurs under these conditions, must be caused by some idiosyncrasy —*Gazz degli Osp* September 11

Potassium Permanganate in Lupus —Kaczanowski has cured thirty four cases by dusting the surface with 2 to 5 milligrams of potassium permanganate after removing the crusts with vaselin and warm soapy water One application proves sufficient, the scab falls in fifteen days and the patch heals A nitrate of silver salve hastens the cicatrization The application of the permanganate is painful, but bearable, and no worse than other caustic remedies —*Semaine Méd*, October 19

Non toxicity of Orthoform —Two cases are reported in the *Munich Med Woch* of October 18, one an extensive cancer of the mamma and the other decubitus sores (morphinomaniac), in which orthoform was used every day for months to relieve the pain, with complete success and without the slightest symptom of intoxication In the first case 4266 gm were used in five months, and in the second 5600 gm since last March, or 15 gm a day

Suprarenal Extract —Von Cyon states, in a preliminary communication in regard to the physiologic significance of the effective substance in the suprarenals, that the extract has a highly stimulating effect on the sympathetic nervous system of the heart and the vessels (accelerants and vasomotors), while it has a paralyzing effect upon the regulator nerves of these organs, the vagus and depressor Suprarenal extract is consequently a powerful antagonist to iodothyrin and the hypophysis —*Deutsche Med Woch*, from *Pflügers Archiv für Phys*, p 370

Dry Treatment of Pus Pockets —Del Vecchio urges the abolition of the practice of washing out cavities with antiseptic or sterile fluids after evacuating pus He claims it is directly injurious, and cites a large number of cases he has treated "dry," in which the cure was much more prompt than usual Even in case of a fistula he merely wipes it dry with gauze and applies a compressing bandage, without drainage or irrigation, occasionally instilling a few drops of some modifying liquid through the mouth of the fistula, left open —*Gazetta degli Osp*, September 11

Conservative Treatment of Wounded Hand —The main point is to cleanse the hand thoroughly, best accomplished with alcohol and ether, followed with copious irrigation with a stream of hot water, at 50 to 55 degrees C, which has the threefold advantage of being hemostatic, aseptic and warming, thus counteracting the coldness that follows the traumatic shock It may be necessary to use an anesthetic to make the cleansing as perfect as necessary Once completed, the wound is dressed with iodoform, or simply sterile gauze, and left untouched for four days with the hand and forearm immobilized A wound thus treated heals without a trace of suppuration —Martin *Jour des Pract*, No 30

Strangulated Umbilical Hernia —Dr R Fowler has been enabled to present before the Brooklyn Pathological Society a case of successful operation for the resection of a portion of the small intestine for the above named condition The history of the case is not unusual—the ordinary history of vomiting and acute onset, with hardly any rise in temperature, and the strangulated intestine was not situated through the umbilicus, but right along side, as is usual in these cases of acquired hernia The Murphy button was used and came away on the ninth day The case calls to mind an earlier one operated on by Dr S McGuire of Richmond, in October, 1895 It was a case of strangulated umbilical hernia of forty eight hours standing, with fecal vomiting, etc He removed fifteen inches of gangrenous ileum The patient recovered, the Murphy button coming away on the twentieth day, and the button showed a ring of the intestine at the site where it was placed In the discussion following the report, Dr H B Delatour offered the following observations regarding the obstacles to recovery after strangulation of hernia of this type He said "I think the trouble in strangulated umbilical hernia is, first, that we have the strangulation occurring high up in the intestine, with early appearance of fecal vomiting, second, that we have umbilical hernia occurring most frequently in people who are immensely fat, and in addition to having fat in the abdomen they have fatty degeneration of the heart Those two points I think enter very materially into the prognosis of the cases—the fecal vomiting occurring early, the retrostalsis pours fecal matter into the stomach when the patient is under the anesthetic, and vomiting occurs, the fecal matter gets into the pharynx, and very frequently portions are inhaled, and may set up either an acute edema of the lungs or be followed by septic pneumonia I have seen that in a number of cases In one case upon which it was my fortune to operate, the patient died about ten days or two weeks after operation from the heart conditions solely The abdominal condition was perfect, the wound had healed by primary union, and the patient died simply from the weakened heart condition. I think the heart was influenced by the anesthetic, and it was the result of the action of the anesthetic on the fatty heart that caused death in that case Three times before she finally died, within a week, at intervals of twenty four to forty eight hours, she became absolutely blue from head to foot, and it did not seem possible she could ever recover from the condition, although she did I have forgotten just what attack she died in, but it was after she had had several I have operated on quite a number of cases of strangulated umbilical hernia and I recall only one case that permanently recovered —*Brooklyn Medical Journal*, October

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE INCLUDING POSTAGE

Per Annum in Advance $5 00
Foreign Postage 2 00
Single Copies 10 Cents

In requesting change of address, give old as well as new location.

Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION
No 61 Market Street (Occidental Bldgs), Chicago Illinois

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION

This is obtainable at any time by a member of any State or local Medical Society which is entitled to send delegates to the Association. All that is necessary is for the applicant to write to the Treasurer of the Association, Dr Henry P Newman 100 Washington St, Chicago, Ill, sending him a certificate or statement that the applicant is in good standing in his own Society signed by the President and Secretary of said Society. Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership.

On receipt of the subscription the weekly JOURNAL of the Association will be forwarded regularly.

Gentlemen already members of the Association should send their annual subscription to the Treasurer or direct to the JOURNAL office.

All communications and manuscript of whatever character intended for publication in the JOURNAL, should be addressed to the *Editor* and all communications relative to the business of the JOURNAL, proof sheet returned, or in regard to subscriptions, should be addressed to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 61 Market Street (Occidental Buildings), Chicago.

Original communications are only received with the understanding that they are exclusively contributed to this JOURNAL.

SATURDAY, NOVEMBER 19, 1898

CHRISTIAN SCIENCE AND THE LAW

"Christian science," which may have been prophetically referred to by St Paul when he wrote to Timothy about "science falsely so called," has apparently made itself amenable to the criminal law in England by the proceedings that preceded and it would seem safe to say directly caused or insured the death of an eminent litterateur. The sacrifice of one valuable life has at last called the attention of the public to the delusions which might perhaps have worked disaster to many more obscure individuals without such effect.

It seems strange that a man of culture, of such penetrative judgment, as some of his writings would imply, as HAROLD FREDERIC should have been a willing victim to what ought to seem to any practically minded man a very transparent delusion. While the fact is hard to account for, assuming him to have been in mental health, something may be allowed for the common and, as it were, very natural affection of the judgment in even any form of bodily disorder. We are all of us apt to be hardly our normal selves under the influence of sickness, and even an educated and thoroughly well balanced physician, to assume an extreme case, might, under certain circumstances and with certain surroundings, allow himself to be treated by altogether unorthodox and unscientific methods. There is, moreover, a remnant of superstition in all of us, and irrational prejudices and beliefs crop out in the most unexpected quarters. As a scientific investigator who has been amongst the foremost in discussing and developing some of the most important biologic questions, Mr A R WALLACE ought, it would seem, to be qualified to express a correct opinion on sanitary subjects, but we find him raving against vaccination, a preventive measure that has stood the test of one hundred years since JENNER's announcement of his discovery, and which has rendered comparatively harmless one of the greatest scourges of our race. With such examples as this, one need not be surprised at any vagaries on the part of the public or of less prominent individuals.

So far as known, there has not been a conviction for manslaughter of a Christian scientist in this country though occasions for such an event have certainly not been wanting. In so far as the devotees of this delusion actively interfere to prevent the necessary remedial measures and the patient dies in consequence of this, it is hard to see how, with any reasonable interpretation of the law, they can escape its penalties. They certainly in some cases like that of Mr FREDERIC prevented what might and probably would have saved life. The case may be different as regards the standing of Christian science where life is not involved, and we do not see the correctness of the conclusion in a recent editorial in the New York *Sun*, that, because a court held that contracts for such treatment are valid, the same court would necessarily hold that a charge of neglect and of manslaughter would not lie if death occurred under the care of a Christian scientist who, it could be proven, excluded rational measures that presumably would have saved life. The civil and the criminal sides of the question may differ to some extent, but where the charge of criminal negligence or worse is raised, it would necessarily have to be seriously considered by any court, and it is not easy to see how well-proven evidence of this character could be managed so as to evade the penalty of the law. Judges and juries are fallible, however, some of them may be ardent advocates of Christian science, and it is difficult to say how these facts may distort judicial views and verdicts in special cases.

It will be interesting to follow the proceedings in the FREDERIC case and to see how British justice deals with the matter, the prominence of the victim and the special issues involved will tend to make it a *cause célèbre*. If conviction follows, the status of the delusion in English jurisdiction will be materially affected and it would seem improbable that it could derive any benefit under the plea of persecution if the facts were fairly published and understood. The results of a similar prosecution which has just been instituted in Cincinnati will also be followed with interest by the medical profession and the public generally.

THE CARIBBEAN CLIMATE IN ITS MEDICO HYGIENIC RELATIONS

Where so much good, bad, and indifferent has been written about the medical conduct of our late war it is to be regretted that so little t[illegible] info tion is to be found in a short, codified form regarding the climate of the West Indies and the nature of diseases peculiar to Army life

Excepting the work of **Laveran** on Army diseases and the condensed but comprehensive articles in "Reference Hand-Book of the Medical Sciences," by Dr **Irving C Rosse**, on this subject and on the medical topography of the West Indies, but little appears to be written Even this little, known to comparatively few readers, would not be referred to here but for the present and prospective interest among our people—civil and military—in all that pertains to the Caribbean climate Outside of the armed forces, the principal element to be affected by the climatic influences of the Antilles are the large number of business men either permanently or temporarily sojourning in our new possessions, the tourist in search of winter sunbeams, and the invalid suffering from pulmonary or other chronic disease

The physical surroundings of war are anything but conducive to seeing with judicial clearness, and such adynamic concomitants as a diet of salt pork amid stifling heat, diluvial rain, and malaria are assuredly not calculated to give a soldier that rosy view of the radiant skies of immaculate serenity, the flamboyant vegetation, and tropic loveliness of islands that seem lotus-bearing and Eden-like to the well fed and comfortably placed voyager on sudden arrival from the March winds of our bleak New England coast

The West Indies, usually associated in our minds with rum, molasses, yellow fever, hurricanes, negroes, and general economic, moral and political relaxation are reported to be and in fact are, very unhealthy, although the islands differ greatly in this respect, the general mortality being influenced by season and altitude, and by the fact of the decedents being indigenes or strangers The Caribbean summer is a season always attended by mortal maladies to man, beasts, and plants, and by disorder of the elements, which are upset in a frightful manner With the advent of the hurricane season thunder groans from one end of the horizon to the other, with seismic convulsions, tidal waves, and pathologic phenomena, chief of which is yellow fever In addition the gravest epidemics of the tropics manifest themselves in the form of malarial fevers, dysentery, and hepatic diseases, which prevail at all the islands at all seasons, and are common to all races But a compensating factor is the salubrity of the mountain regions—more particularly that of the volcanic mountains What is known as a climate of impression may be found at a small height Above 1000 feet yellow fever scarcely ever occurs, the lower sugar-cane lands being its natural abode At about 2000 feet cooler temperature with more marked delimination of the seasons is found, along with thermometric and barometric variations of such absolute regularity as to attract attention A very small number of nycthermal observations suffices to show the regularity of these movements in an atmosphere free from ochlitic or zymotic contamination

The mountainous and highly picturesque aspect of the volcanic Antilles, with their blue pyramidal outlines on the horizon, and conical peaks losing thin summits to the clouds, owes this physical configuration to the fact of the islands being nothing more nor less than vast mountains resting on the ocean bed Bathymetric observations show the deepest water of the Atlantic in their vicinity, being about 5 6 statute miles at "Bronson's Hole," a little north of Porto Rico

To give systematically the medical topography of most of the islands, particularly those of volcanic formation, would be to repeat many details already familiar to newspaper readers The characteristics of an active *soufrière*, numerous hot springs, an indescribable richness and variety of bird, insect, and fish life, beautiful scenery, magical and marvelous sunset effects, lovely climate at certain seasons, and botanical remarkableness are so common and striking as to have led **Darwin** to speak of Jamaica as "a great, wild, untidy, luxurious hothouse"

The principal climatic observations being likewise more or less matters of common knowledge, it suffices to say that meteorologically there is nothing excessive in the character of the Caribbean climate, which, instead of our four seasons, consists of but two, known to climatologists as *diorique* Rains, during the season of stifling heat, are the peculiarity of the West Indian region It is, in fact, the combination of humidity with long-continued heat, rather than its intensity, that marks the climate of the Antilles and causes its insalubrity Not only does this combination corrupt all kinds of food with great rapidity but hatches out myriads of insects of all species to such an extent as to become repugnant and destructive Besides, the climate relaxes and impairs the fibers in men and animals, renders them lazy, inert, and phlegmatic, and reduces them promptly to a state of complete atony In these islands of indolence even mosquitoes are lazy and appear supremely indifferent, fish are not game, imported quadrupeds weaken and degenerate rapidly, the hog alone flourishing The African negro, transplanted to a sky but little different from his own, has scarcely any physical or moral modification Flourishing in the Antilles like the green bay-tree, nature is there so much in his favor that after successive generations of mulattoes, children revert to the negro type More than one-half of the entire population of the West Indies (4,000,000) are negroes, the remainder chiefly mulattoes Frenchmen do not acclimate and flourish here as they do in Canada under the same isotherm as Denmark, and it is an undisputed fact that families who are not recruited from time to time become extinct in the third or fourth generation And so we may ascend the zoölogical scale to the Anglo-Saxon, who does not flourish in an *dionique* climate made tolerable only by the influence of trade winds Many of our people have seen repeated object-lessons of this fact in the weazen-faced cachectic soldiers who, aside from other unmentionable privations, the criticism of which is outside our province, owe their lowered vitality mainly to such atmospheric vicissitudes as the mid-day sun, the chill of night, and the morning dew of the Caribbean climate

The question of the disorganizing effect of this climate is therefore one of a highly practical nature, which at present greatly concerns not only our soldiers obliged to serve in the Antilles, but others who may visit them for business and pleasure

As a matter of fact the subjective bodily effects of the climate are more agreeable than is imagined by persons who have never visited the Antilles It is well borne by strangers during a temporary winter sojourn, the danger and annoyance therefrom may be much diminished by hygienic measures, and there are healthy and attractive spots where invalids may obtain the advantages that the climate affords

Notwithstanding the great mortality among our soldiers in the West Indies, it is a notorious fact that much of it was unnecessary and might have been avoided by proper attention to sanitary measures British regiments have had sad experience in this part of the world, the Twenty-ninth Foot being almost annihilated in Barbadoes by mortal disease in the early part of the present century However, during a recent service of three years, it is said that none has ever served the same time in the West Indies with so little fatality The extraordinary good health of the battalion of U S Marines lately returned from Guantanamo without the loss of a man from disease, is another striking example of what may be done by proper hygiene

Doubtless the surgeons of our Army will learn and practice the hygiene of hot climates when they have become emancipated from the thraldom of circumlocution and red-tape, and the narrow ideas engendered by long service at small army posts

The death-rate of armies has decreased within the last few years, and the general health has greatly improved, but this improvement did not originate with the medical officers It was brought about by outside influence In most armies we find the average medical officer about as apathetic and unprogressive as the line officer, who in former days made strenuous objections to the innovation of fire-arms for bows and arrows, and still later, even up to the time of General SCOTT, to the introduction of the percussion cap in the place of the old flint-lock, and the substitution of breech loaders for smooth-bores and muzzle loaders In saying this it is far from our intention to arraign or criticise a body among whom are many honorable exceptions—men who have advocated the principles upon which sanitary ameliorations are founded But it is a matter of history that sanitary reform in the army has been brought about by outside influence Just as advance in psychiatry, neurology and improved treatment of the insane since the days of PINEL have come from persons unconnected with insane asylums, so have the acts of citizen organizations been of the greatest benefit in removing existing evils and suggesting remedies This is no less true than the fact that it is impossible to point to any great medical or surgical discovery made by persons connected with armies

The British army owes its redemption from special sickness and undue mortality to Lord HERBERT, Lord GRAY and FLORENCE NIGHTINGALE, who did so much to relieve the sick and wounded in the Crimea The sanitary commission of the Civil War contributed much to the comfort of the well and the relief of the wounded, and many poor, fever stricken patients, whose presence was a scourge and an encumbrance to the Army during our late war, will remember with lasting gratitude the humanizing efforts of the Red Cross

In spite of the introduction of many reforms and the decreased death-rate of armies, as shown by statistics of the last few years, comparison places army mortality and loss from sickness at a figure still in excess of that of the civil population of the same age living under analogous conditions Since it would be manifestly out of place to discuss at this present the causes that brought about a mortality of 66 6 per cent from disease in our Civil War, and the enormous percentage of 88 1 in the Spanish War, it may suffice to say that the diseases influencing the operations of war are mainly those of civil life modified by mesologic circumstances, as typified by the accidents arising from atmospheric or telluric influences, the manner of life and the food consumed The prevailing diseases of the West Indies, whether among soldiers or civilians, are mostly acute, and at least two thirds of them being zymotic, are consequently preventable by hygienic or other conditions

To describe the peculiarity of these diseases and their mode of action would require a repetition of what may be better found elsewhere in works devoted to the maladies of hot climates It is rather their prevention that most concerns the intending voyager, whether soldier, merchant, or invalid, and in the existing conditions, owing to the absence of sanitary police, it follows that on visiting the Antilles a certain amount of care and circumspection are imperative The Carribbean climate, at its best, from November to May, is well borne by strangers and despite the drawbacks of warm latitudes and bad sanitation, one may find Englishmen and other Europeans who have lived many years in the West Indies without sickness From such old residents many hints of useful nature may be had, which go to corrobo[illegible] of [illegible] learly demonstrated facts of preven[illegible] ely.

that with properly enforced hygiene, both public and personal, whether among soldiers or civilians, sickness and mortality in the Caribbean climate may be not only minimized, but reduced to almost that of more favored spots

THE RELATION OF DISEASE OF THE ACCESSORY CAVITIES TO OPHTHALMOLOGY

The general practitioner, no less than the specialist, is often puzzled as to the exact cause or causes underlying headaches and neuralgias While the one is inclined to refer them to the gastro-intestinal or genital tract, the other hastens to ascribe them to alterations from the normal of the various organs that come under his care Only when both have tried their skill and after apparently righting all existing difficulties in either direction with no relief forthcoming, is there, as a rule, any attention paid to those prolific factors in the etiology of intense cranial pain, disease of the frontal, maxillary, ethmoidol or sphenoidal sinuses Even the splendid monograph of ZUCKERKINDL on "The Normal and Pathological Anatomy of the Nasal Cavity and its Pneumatic Accessories" directed little attention to these important structures aside from the interest of his immediate followers In these later times, when the eye surgeon pure and simple is practically an unknown quantity, and the former specialist in eye affections now devotes additional attention to the ear, nose and throat, the surgery of the accessory sinuses falls into the latter's hands as a matter of course

The cellular spaces contained in the temporal bones have long been recognized as common areas of disease usually secondary to trouble of the middle ear, sometimes the condition is acute, when symptoms of the greatest intensity and danger rapidly develop, more often the process is of slow development, and accompanied by caries of the temporal bone, in both instances a most characteristic symptomatology has been elaborated In either case operative interference of the most radical kind is indicated and is usually followed by the most brilliant results The next of the pneumatic sinuses to receive attention was the maxillary, and the scientific work done in this field must ever remain a lasting monument to dental surgery Of late the remaining accessory cavities, the frontal sphenoid and ethmoid cells, are receiving a prominent place in head surgery SATTLER (*Medical News*, Sept 10, 1898) in this connection makes the following interesting statement "The lesions of the pneumatic spaces of the frontal, ethmoidal and sphenoidal bones are disclosed by the almost uniform presence of characteristic symptoms on the part of the walls of the orbit, its margins or contents, and even if these uncommon cases have not attracted more general attention they, nevertheless, belong to the province of ophthalmic surgery Unfortunately these cases have not received, even from the majority of ophthalmic surgeons, the attention they deserve, and only in those unmistakable examples of disease in which these sinuses become the retention cavities of pus, larvæ, micro organisms, or tumors, were the indications for rational surgery looked upon as imperative, and even in such cases, unnecessary delay was oftentimes resorted to" It will be noted that "characteristic symptoms" are referred to "on the part of the orbit, its margins or contents," that is to say, we may have as the result of extension of disease and destructive pressure of contained products, lesions appearing at a distance from the original site of the disease Under such lesions SATTLER mentions periorbitis and caries of the orbital margin, both following sinus disease Displacement of the eyeball to either side or forward, producing pronounced exophthalmos, is a not uncommon symptom As a result of periorbitis or caries we may have fistulous tracts formed which empty themselves, usually externally, far from the diseased origin "With less frequency we meet with chronic empyema, hyperostosis exostosis, periostosis, and the growth of osteophytes and exostoses, rarefaction of the cavities with dilatation, in exceptional cases, to enormous proportions, contraction of these spaces either confined to one or several, or as observed in these rare cases, of leontiasis ossea affecting all alike" Surgical treatment dealing with the apparent disease frequently relieves the symptoms but does not cure It is only by getting at the primary foci and thoroughly eradicating them that we can hope for a permanent beneficial result It might also be mentioned that it would be wise in the treatment of supra- and infra-orbital neuralgias before resecting the respective nerves to explore with great care the accessory cavities, for these neuralgic affections are not at all uncommon complications of the pathologic process under consideration

What is the nature of the disease involving these sinuses? In the beginning doubtless streptococcus infection in many cases, either by the blood or more often from extension of nasal diseases, or in the maxillary sinus carious teeth The pneumococcus is also present at times In the chronic cases, where caries is a prominent symptom, cases without great pain and in which very little purulent material is formed, are frequently tuberculous from the outset, though indeed acute cases may be accompanied by caries and necrosis as the result of closure of all avenues of exit and a resulting harmful pressure

Not infrequently we find no signs localizing the disease to any particular cavity, the only symptom indeed being intractable headache usually located in the frontal region, but may be radiating In such patients the frontal sinus may be the one at fault, on opening the sinus everything at first glance appears normal, and it may be only by the careful use of the probe or curette that granulation tissue of uncovered bone is detected That this apparent trivial condition has produced the symptoms is evidenced by the fact that drain of the cavity is followed by a disappearance of the terrible pain Nor can these people be said to have been afflicted with hysteria and that any operation would have cured them the large majority were by no means strangers to the operating table **Sattler**, by his timely article, written as it is by one of vast experience, can not but direct even more attention to this line of work than it is now receiving, and that is not inconsiderable With the progress made of late doubtless the subject will received deserved notice, which is sure to bring about a rational and scientific treatment

THE LIMITATION OF OPERATIVE TREATMENT OF EPILEPSY

In the discussion of the operative procedure of epilepsy, one very important fact has failed to command the attention it deserves Because an epileptic seizure is localized in its onset and course, it by no means argues that the epileptic lesion is a gross one or one to be benefited by operative procedure We may have non-traumatic partial epilepsy, or what has been described by **Fere** as parcellar epilepsy or monospasm These partial epilepsies may, and generally do, tally with grand mal fits in all other respects aside from their peculiar muscular spasm

Again, because the epileptic fit has a leisurely and well marked order of invasion in the convulsion, it does not necessarily prove that a focal disease is at the beginning of the fit Many grand mal epileptics, apparently idiopathics, come to autopsy with no visible local cause for this systematic order of invasion Even various forms of localized paralytic phenomena, motor and sensory, may occur in such cases without discoverable lesion in the brain Facts like these should deter operative procedure in such cases Further tests are necessary before we trephine them, as only harm can come from meddling in an operative way with such an epileptic s brain

What then, does the order of invasion prove to us? Simply that one part of the cortex requires less irritation to provoke a discharge, or has less power of internal resistance in maintaining its normal status, and takes the lead in the epileptic fit Frequently we see one of these seizures delayed by mechanical means, until another part, usually secondarily involved begins the muscular spasm We are inclined to think a much narrower limitation of operative work among epileptics would result if the above facts were borne in mind

The hereditary instability of the cerebral cortex of epileptics has not been given the attention of late years that it really demands We can not refrain from placing ourselves on record as opposed to the radicalism in the present day studies of the etiology of epilepsy Some of the studies devoted to eye strain and its correction, satirically referred to by one of our prominent neurologists as "tampering with eye muscles, is too absurd to call for special comment **Gowers**, one of the greatest living English authorities in nervous diseases, has said that the so called reflex epilepsies are exceedingly rare

To this same category may be assigned similar reflex disturbances in nasopharyngeal, urethral and many gastro intestinal cases In regard to this latter class of cases, which have probably given more aid to the upbuilding of the toxic, autotoxic and dynamic causes of epilepsy than any other phenomena in the disease, we notice that **Clark** of the Craig colony, in his studies of the aura of epilepsy, has recently called our attention anew to the important fact that such symptoms from the digestive tract are most frequently due to a nerve disturbance originating primarily in the brain, and like any other aura or warning referred to the periphery along sensory paths Frequently such sensations may precede, follow or take the place of an attack In this latter instance it exists as an aborted attack of epilepsy, common to the experience of many epileptologists

Again, malassimilation, constipation and chronic intestinal catarrh may equally be caused by defective tone of the cerebral nervous system We do not doubt that visceral symptoms most frequently accompany epilepsy as an effect of the disease and not as the cause In such cases we should not consider toxicities as the one great thing to be studied and possibly eliminated, but the hereditary instability of the cerebral cortex of the epileptic In our minute examination of the organism of the epileptic by the aid of chemistry and pathology, we are liable to over look the autonomy of the nervous system as a whole How often does the clinical observer declare on paper, in examination of a case of epilepsy, that there is "no cause in hereditary factors,' and yet in looking at the case in a critical manner is able to see little indefinable and intangible frayed ends of inherited factors which come under the cognomen of no well marked condition or disease

At best, the study of the excitant of an epileptic attack will give us the degree of instability only and can not help to solve the far greater problem as to what that instability really consists of The real chemico-psychologic change in the nerve cell during an epileptic fit may never be known at least by methods at present in use it seems impossible As we have before remarked editorially in these columns the necessity of approaching the pathologic physiology of epilepsy by means at present in use for the study of the brain in experimental psychologic laboratories can not be too urgently insisted upon But it must not be studied in a psychologic light alone Although we have received a rebuke from the great **Virchow** in referring to a man as a "biologic unit yet we can refer to it in this manner when we wish to express that the whole organism is to be studied and not a single apparatus We must endeavor to bring to our aid in epileptic studies the accumulating facts of cytology in development and inheritance to further the study of the multitde of "biologic units" in man, and especially upon the units of the cerebral cortex

INTERNATIONAL MEDICAL STATISTICS

In 1894 an international committee of military medical men of which Dr John S Billings, then lieutenant-colonel and deputy surgeon-general on the active list of our army, was chairman, met at Buda-Pesth, Hungary, and formulated a series of international statistical tables with the view of enabling a ready comparison of the prevalence and fatality of disease in the various armies to be made These tables were formally adopted, and since 1895 Surgeon-General Sternberg has embodied them in his annual reports Chiefs of the medical departments of other countries have not been so prompt in getting up their statistics in this comparable form In the Journal of May 21, 1898, we noted the publication of the first tables of this kind issued by the British Government, for the year 1896 We have now to record the publication of similar tables from the Netherlands for the year 1897 in the form of an octavo pamphlet from the *Imprimerie Nationale* at La Haye.

A few items taken from these tables will show the facility with which points of interest requiring investigation or explanation may be detected The bracketed figures given below are those of our own army for 1897, obtained from the office of the surgeon-general The recklessness of the United States soldier is manifested by the excessive number of accidental and violent deaths, as well as by the ruptures and the cases of alcoholism

The mean strength of the Army of the Netherlands was 27,458 [23 843] during the year, and the admissions to sick report 1450 7 [1186 6] for every thousand men present A total of 85 [86] deaths occurred among these, or 3 09 [3 14] per thousand living, but these deaths do not include 8 [10] suicides nor 6 [54] deaths by accident or violence The amount of sickness was equivalent to 10 8 [13 1] days for each man in the army, and the average duration of each case was 13 9 [11 07] days Arranged by months, September had the lowest admission rate, 73 6 [December 90 57], March the highest, 177 2 [October 106 87], August the lowest death rate, 07 [July 0], May the highest, 42 [June 46] Of special maladies and groups of maladies skin diseases occasioned the largest number of admissions to sick report, 87 8 [75 37] per thousand men for the year, the cases having an average duration of 9 1 [8 3] days Acute bronchitis came second with 52 7 [58 55] per thousand The malarial fever rate was only 8 9 [80 69], notwithstanding the malarial reputation of the "Low Countries," sustained historically by the breakdown of the Walcheren Expedition Forty-six [80] ruptures were reported during the year, the patients in 28 [65] cases having been cured and returned to duty No case of acute alcoholism nor of delirium tremens [666 cases, or 27 93 per thousand men, with 2 deaths] was reported during the year, but there were 29 3 [55 49] admissions per thousand for gonorrhea, with an average duration of 32 7 [22 19] days, and 6 7 [12 79] for syphilis with an average duration of 34 5 [36 7] days Only 16 [174] cases of typhoid fever were reported, but of this small number 7 [8] were fatal, 193 [65] cases of pneumonia of which 14 [4] ended fatally and 122 [59] cases of consumption, 16 [7] fatal The advantages of these International Tables are obvious

CORRESPONDENCE

The Vital Statistics of the War

Washington, D C, Nov 12, 1898

To the Editor —In a communication in the Journal of October 29 I directed attention to the unsubstantial basis on which an editorial writer in the *Philadelphia Medical Journal* made a demand, on behalf of the medical profession, for an explanation of the fact that the ratio of death from disease to death from all causes was greater in the Spanish War than in the Civil War The pressure of official business was so heavy that I was unable to discuss the conclusion admissible from the figures given by the journal cited, or to give some statistics which I am confident would have been regarded with interest by the members of the American Medical Association, but this I propose now to do

The statement was made that death from disease formed 66 6 per cent of the total mortality in the War of the Rebellion and 88 1 per cent in the Spanish War Accepting these figures at their face value, for I have not considered it worth while to verify them, we learn simply that more men were killed and fatally wounded out of every hundred who died in the service of their country a third of a century ago than in the recent war This we can readily understand, when we recall the fact that on July 21, 1861, when the first serious clash of arms took place between the North and South at Bull Run, Va, nearly as many men were wounded and nearly twice as many killed as in the whole Spanish American War This one fight was but the beginning of a series which ran the list of battle fatalities up to the terrible total of more than ninety thousand deaths It may, however, be claimed that the difference between the ratios in question was due, not to a greater prevalence of battle casualties in the former war, but to a greater prevalence of fatal disease in the late war This cannot so readily be accepted as an explanation, although a great deal has been said, written and printed about the sickness at Santiago, Chickamauga, Alger and other camps where our volunteer troops were aggregated We may not assume that the sickness which affected our young men was more extensively disseminated or more deadly than that from which their fathers suffered in the earlier war, because, as a matter of fact, we know that it was not so Time has dulled the National memory of what happened in the days of the Civil War Perhaps the remembrance of those times remains fresher with myself than with most others, not because I was with the troops in the field until the end came at Appomatox, for many others had as full an experience of army life in the field, but because it afterward became my duty and my high privilege to spend over three years of my life in studying the records of sickness, while compiling the third part of the medical volume of the "Medical and Surgical History of the War" That history is on our shelves, and by referring to it we may at any time find out how diarrhea and dysentery, typhoid fever and malarial diseases swept through our camps and sent their thousands to the hospitals and to their graves We may also compare the deaths recorded by the medical officers of those days with the deaths recorded by the medical officers of the present time, and should we do so we would find overwhelming testimony to the effect that any differences discovered in the percentage of deaths from battle, casualties, and from disease, are not due to the greater prevalence and fatalities of disease in the recent struggle, but to the number of sanguinary battlefields of the Civil War

In April, 1861, President Lincoln called for 75,000 volunteers, but it was not until after July 22, when his call for 500,000 was made, that we had armies comparable in size with those recently in existence Beginning, then, with July, 1861, when we had medical reports from regiments aggregating only 69,118 men, and including August, September, October and November, five months, we find recorded a loss by death of 3075 men in the reports sent in by medical officers, from an average strength present of 177,690 men, or 17 31 deaths out of every thousand men during that period of five months More deaths occurred than were reported, for some surgeons failed to send in reports, but the probabilities are that, had the missing reports been forthcoming, the deaths would have continued to have the same proportion to the reported strength

In April, 1898, President McKinley called for 125,000 men and later for 75,000, which, with an increase in the regular Army and the immune and other special regiments, made a total of over 270,000 men Beginning with May, 1898, for which month we have medical reports in the office of the Surgeon General of the Army from regiments aggregating 151,685 men, and including June, July, August and September, five months, we find on file a loss by death of only 1715 men reported by medical officers, in an average strength of 167,168 men, or 10 21 deaths out of every thousand men during that period of five months More deaths occurred than were reported, for some surgeons have failed so far to send in reports, but the probabilities are that were the missing reports forthcoming, the additional deaths would be associated with a proportionate increase of the strength This proportion of deaths to a strength of 270,000 men would give 27 70 as the total of reported and unreported deaths

According, then, to the testimony of every medical officer who has placed himself on record then and now, we lost in the five months of the war with Spain 10 21 men out of every thousand reported present by medical officers serving with them, and in the first five months of the War of the Rebellion, 17 31 out of every thousand similarly reported present This is interesting, but it is still more so, if we look a little more into the details of these reports During the month of May last the death rate was low, 46, it was somewhat higher in June, 70, or the equivalent of an annual rate of 8 4 per thousand In July it rose to 2 15 for the month or the equivalent of an annual rate of 25 8 per thousand In August, owing to the rapid spread of typhoid fever in the camps, and to the broken down condition of General Shafter's Corps, it reached 4 08, equal to an annual rate of 48 96, such as was common in cities before the era of municipal sanitation The War Department immediately put forth its energies to remedy this condition of affairs and with such efficacy that the death rate in September fell to 2 45 If it be claimed that this falling off was due to the fact that the typhoid infection had done its worst and that, irrespective of all sanitary measures, the death rate would have fallen owing to the exhaustion of susceptible material, we have merely to consider what was the history of our Civil War camps subsequent to November, 1861, when, as I have stated, the number of deaths had already amounted to 17 31 per thousand of the strength present In that month of November the rate was 4 27, or somewhat more than our recent maximum of August last, but the next month, December, showed no sign of decrease, for 1578 men died, or 4 69 per thousand During January, 1862, the ravages of disease continued, 1664 men having been swept away by death or 4 84 out of every thousand of those present In February the rate was 4 79 and in March 6 08 In April the culmination was reached when 3331 deaths were reported, constituting a death rate for the month of 8 42 per thousand, a rate twice as high as that reported from our camps in August last.

This is a startling record Mortality from disease reached its maximum in the camps of our Civil War only at the end of ten months, if we count from July, 1861, or at the end of twelve months, if we count from May, 1861, when 47 56 men had been buried out of every thousand of strength present, or, to put it otherwise, the maximum monthly mortality was reached only after ten or twelve months of suffering, during six of which the mortality was greater than that of the disease which did so much harm in August last In that month the country became excited over the hysteric utterances of yellow journalism, with 4 08 deaths per thousand, and the *morale* of the Army became broken by making the volunteer believe that never in the history of armies had men suffered from disease as he and his companions had suffered Yet thirty seven years ago the flower of the manhood of this country, after months of deadly losses, suffered in April, 1862, more than twice the loss incurred in August last, and instead of going home on sick furlough they girded up their loins for the attack on Richmond, by way of the Peninsula

Respectfully, CHARLES SMART,
Deputy Surgeon General, U S A

Bicycling

SEATTLE, WASH , Nov 5, 1898

To the Editor —In the JOURNAL of October 29, you have something to say about the ill effects of bicycle riding, and among other things is mentioned the long since prophesied ill effects on the female pelvis, by way of distorting or contracting the same, and rendering childbirth more difficult A little further on you say "We are not aware that the obstetricians are having any greater difficulty in delivery than formerly" And why should they? The gentleman who had prophesied that the bicycle would have a serious effect on childbirth had a mistaken idea of the entire proposition While bicycle riding may deform the pelvis, it will have little or no effect as regards the ease of childbirth And why? For the simple reason that "bike" riders do not have babies Where or who is the physician that has attended a "bike" rider in confinement? Will the female rider throw aside her wheel long enough to have a baby, let alone to rear a respectable sized family? The bicycle is a nuisance and a curse instead of a blessing While it may have a beneficial effect physically upon a few, yet the ill effects upon the many ten thousand times overbalance it The deaths and the maiming from wheel accidents almost equal perpetual war The injury to heart and kidneys of thousands must be added Then what of the nuisance of the machines on street and sidewalk, everywhere? In the public thoroughfare they are a constant menace to teams and footmen, and as there is no bounds to the impudence and effrontery of these wobblers they presume also to usurp the sidewalks in most cities, whether permitted or not by law? Think of such ungovernable vehicles approaching foot-people on sidewalks every few rods as they proceed at a speed of twelve to fifteen miles an hour, jingling their little bells, warning you to jump aside or be run over or maimed And when one steps aside there is *no telling* but the crazy thing will make a dive for his solar plex[illegible] all sorts of wobblers presume to usu[illegible] times past, before we became so civilized, supposed to be for footmen only

The advent of this horrid means of locomotion is an instance in which the inventive genius of man has overtoppled itself, or at least he has invented a machine that causes a great many individuals to be overtoppled Here in Seattle, bicycle riders pay a license and are permitted by law to ride on the side walks, so footmen step aside as they whiz by or take the chances of suddenly converting the momentum of one of these machines and its rider into heat, light and electricity

A C SIMONTON, M D

Conservative Treatment of Intestinal Occlusion by Internal Electricity

OAK PARK, ILL, Nov 15, 1898

To the Editor —A criticism of an article under the above caption, credited to the able pen of Dr J R Pennington of Chicago, appears in the JOURNAL of November 5 As the author of said article I respectfully request that you publish my answer in your columns

1 The critic calls me to account for not giving Dr Boudet credit for his original work and untiring effort However, I did state in quotation from Dr Larat that Boudet had treated fifty cases with 75 per cent of cures, a better percentage of cures than is shown by any other practitioner, even including surgery

2 As to electrolysis He says to use the author's electrode, the oxychlorid of the metal used may have an indescribable effect on the tissues, and attempts to overcome this difficulty by using a disc of soluble "copper, carbon, zinc, gold or platinum" Of course he does not mean a solid disc of gold or platinum The expense is prohibitive Consequently I fail to see his advantage over me, as it is as easy to plate my electrode as it is his disc His deductions on electrolysis, however, are overdrawn With the current used in this treatment it would be so slight as to be harmless, unless the treatment was carried on indefinitely

3 The Doctor criticises me, in very poor taste, on the "Code," for in the same breath he describes minutely, with an accompanying cut, an instrument that is named "Dr J R Pennington's Colon Electrode" As to the merits of his instrument I am doubtful The coil (which he is pleased to call a flexible cable), covered with vulcanized India rubber, is no better as a conductor than an ordinary copper wire, and of no more use as a mechanical device for introducing the rectal tube This deduction is from the fact that the coil is smaller than the internal diameter of the soft rubber colon tube, and does not support the caliber Consequently, the tube will kink and double up, and is no better than the soft rubber rectal tube, and can not generally be introduced into the sigmoid flexure As to the general similarity of the two rectal tubes under discussion (his and mine), I will simply refer you to the cut in his article, and the description of my tube which I give in my original article From this comparison the reader may draw some very interesting conclusions as to Dr Pennington's general source of information on the subject

R P JOHNSON, M D

Rush Monument

PHILADELPHIA, Nov 4, 1898

To the Editor —As the committee on Rush monument are desirous of having a thorough organization of the profession in the States and Territories, will you please urge immediate attention to the request for the appointment of a committee man for each State and Territory? Thus far very few have notified me of any selection of a representative

Yours very truly,

W B ATKINSON, M D

Foreign Body in the Ear

CINCINNATI, OHIO, Nov 6, 1898

To the Editor —Mrs H brought her son, 9 years of age, to consult me in regard to his left ear He had been treated for earache, deafness and ringing in the ear by a physician for the past month, but could not get any relief Good illumination showed the auditory canal to be normal, but what at first sight I supposed to be the membrana tympanum, showing as it did the cone, or pyramid of light, did not present the outlines of the ossicles Instead of probing I used the politzer inflation on that side, and again examined the ear and found that I had dislodged the supposed drum, which was a foreign body tightly impacted against the membrana tympanum A syringe full of warm sterilized water brought away a circular concavo convex piece of mother of pearl (the larger end of a small button) When in the ear it presented the concave surface

CUNDELL JULER, M D

PUBLIC HEALTH

Hay Fever in Switzerland —A collective investigation of the etiology and therapeutics of hay fever has been commenced in Switzerland by Dr A Wyss of Geneva, according to the *Schweiz Corr bl*, No 19

Hygiene in Schools —The recent French Congress for the Advancement of Science passed resolutions urging the teaching of hygiene by a physician in all the schools above the primary grades

Sanatoria for Convalescents —The city of Paris has recently entered into possession of a much needed asylum for convalescents, a chateau at Mary sur Marne, which, with its large grounds, was bequeathed by its late proprietor for the use of women who have undergone surgical operations in the Paris Hospitals There is already room for forty

Quarantine Convention Delegates —Dr A J A Egan, secretary of the Illinois State Board of Health, and Dr John B Hamilton of Chicago, are delegates for Illinois to the Quarantine Convention at Memphis, November 17, 18 and 19 Dr A R Reynolds of the Chicago Department of Health is the delegate for Chicago, and Dr J C Sullivan of Cairo the delegate for that city

Sanitation in Mexico —Information from Mexico City, November 5, is to the effect that the government is taking measures for carrying out the sanitation of Mexican Gulf ports It is believed there that when the American Government completes the reconstruction of the sewerage system of Havana and cleans out the bay, with moderate care in Mexican Gulf ports, yellow fever can be stamped out

The Bubonic Plague —United States Consul Hurst, at Vienna, dispatches to Washington, D C, that three deaths have occurred from bubonic plague, and that there are now only six cases in the entire city, and these are all hospital attendants Mr Hurst adds that the infection of immigrants is improbable, ample protection against possible infection of suspects, or in fact any who have been in contact with infection, being provided

Support of Illegitimate Children —The new Code to go into operation throughout the German Empire in 1900, provides that the man who has had relations with the mother of an illegitimate child between the 182d and the 302d day before the birth of the child, is to be summoned before the justice of the peace and compelled to assume the pecuniary obligation of paying a certain small amount annually for its support until it is fourteen If there are several men they must raise the amount collectively There is no question of paternity The relations are merely those of debtor and creditor, and the proceedings in the court are private The child belongs to its mother, but the certainty of its support prevents infanticide and desertion, and places the burden where it belongs The man can also adopt the child if he wishes, even without marriage with the mother, and confer upon it all the legal rights of a legitimate child Somewhat similar legislation has proved very effective in Great Britain, and the *Semaine Méd* is urging its introduction into France

Yellow Fever —The increase of yellow fever at Havana has caused the United States Government to seriously consider the problem of landing an army of unacclimated volunteers to take possession of that city a few weeks hence Nothing toward cleaning and disinfecting can be done until the American troops are in complete control The original occupants are less capable and less disposed than ever to be sanitarians, now that their departure is so near The few weeks of delay may prove a sacrifice of many lives

Santiago Healthful —Gen Leonard Wood, governor of the military department of Santiago, under date of November 1, authorizes the statement that during the last sixty days there has not been a case of yellow fever With warm commendations of the Red Cross Society for their continuous help and for their supplies, which have been effectively distributed by officers of his own appointment, he warns against fictitious tales of suffering and asks that hereafter all the applications be referred to him for endorsement It is now expected that much before the close of the month the staff of the yellow fever hospital will be abolished It has been maintained merely to care for a few suspected cases, and with the cooler weather its further services are not needed

Military Sanitaria for West African Troops —The King of Belgium has evinced an alert attention to the sanitary well being of his Congo State troops One of the greatest drawbacks to the expansion of European rule in West Africa is the deadly climate and the difficulty of dealing satisfactorily with fever stricken troops If they remain at their posts they run every risk of succumbing, if they are brought back to Northern Europe the sudden transition from a tropic temperature to the chills and damps of their own countries may also prove disastrous King Leopold, therefore, has in view the establishment of a sanitarium within reasonable touch of the Congo territories, which shall be at once genial and free from malaria Northwest Morocco was at first suggested, but a second and decidedly better scheme has presented itself and is in a fair way of being carried through The Canary Islands are considerably nearer the west coast than is Morocco, and lie in the direct route of the Congo steamers Their climatic conditions are too well known to medical men to need any remarks A medical commission has left Antwerp for Las Palmas to choose the site for the sanitarium and the King has placed 25,000 francs at the head of the subscription list by which the necessary funds are to be raised It has always been the custom of our military medical service to provide hospital steamers for the reception of fever cases among our troops whenever large numbers have been on active service in malarial districts, but the establishment of a permanent sanitarium in a climate such as that of the Canaries within easy reach of our West African dependencies, is certainly a plan well worthy the consideration of the authorities of the Royal Army Medical Corps English troops are constantly quartered in those districts, and many valuable lives might be saved to our army by such an institution —London *Lancet*, October 22

Local Inspection of Water Supplies —Dr Thresh holds the opinion that it is the exception to find either public or private water supplies adequately protected In fact, he would take a still more serious view of the situation, and say that it is the exception to find such supplies protected at all except in the crudest manner Dr Thresh s remedy is legislation and education Both are powerful agents, and to the latter unqualified support may be given There is room for discussion as to the best legislative means to be adopted as was recognized by the parliament when it refused to insert the clauses introduced by the local government board in certain private water bills as being of the nature of limited legislation on an important subject Dr Thresh suggests, as a basis for future legislation 1 That sanitary authorities should have power to close any shallow well which can be proved to be liable to pollution 2 That no shallow wells shall in future be made until the site selected has been approved by the medical health officer for the district 3 That sanitary authorities should be empowered to make by laws having reference to the construction of such wells That control of water supplies by an authority is necessary, all will admit and that such control should rest to a large extent with the sanitary authority, is doubtless desirable for many local reasons, but that it would be wise to vest in that officer the ultimate control of the water supplies in his district we venture to doubt The water supply of a district is ultimately a physiographic question, and geologic formations are not coterminous with administrative districts A central water authority is the only solution of the control question On it should rest the responsibility of opening wells, while the local sanitary authority might wisely be entrusted with their enforced closure Most hygienists will agree with Dr Thresh when he says, "I am strongly inclined to think that all public supplies, whether owned by sanitary authorities or water companies, should be under the supervision of some higher authority" —*British Medical Journal*

SOCIETY NEWS

Washington Microscopic Society – At the regular meeting of this society, held November 8, the program was ' Abstract of Foster Lecture on the Physical Bases of Psychic Events '

Columbia Historical Society —At the meeting of the society held in Washington, November 1, Dr Samuel C Busey read a very interesting paper on the history of daguerrotypy in Washington

Southern Kentucky Medical Association —The semi annual meeting of this Association was held at Russellville on November 2 Dr M E Alderson of Russellville was elected president and Franklin chosen as the next place of meeting

Wyoming State Medical Society – The second regular meeting of the society convened in Rock Springs, November 1 under the presidency of Dr R Harvey Reed The program was full and the papers elicited a good discussion The society passed resolutions condemning the Anti vivisection Bill now pending in the Senate, also the granting of a patent on diphtheria antitoxin to Behring and recommending the establishment of a National department of public health, with a physician as cabinet officer at its head The society was entertained by Drs Reed and Freeman and the citizens of Rock Springs and the meeting will do much to organize and unify the medical profession of Wyoming The following officers were elected for the ensuing year President Dr R Harvey Reed first vice president, H J Maynard, second vice president G G Verbryck, third vice president, E E Levers secretary and editor E Stuver, treasurer, C H Solier The next meeting will be held in Laramie City on the second Tuesday of October 1899

Washington Obstetrical and Gynecological Society The two hundred and eighty seventh meeting of this Society was held November 4 at the residence of Dr Van Rensselaer Dr H B Deale read the essay of the evening entitled Constipation in Infants He limited his remarks [illegible] infants and recommended the cure [illegible] hygienic and dietetic treatment of the [illegible] discussion followed, participated in

Smith, Winter, H L E Johnson, Balloch and S S Adams Dr Stone reported a case of death from sepsis, after an operation for ventral fixation He also presented the specimen and gave the history of a case resembling abdominal pregnancy The Fallopian tube and tumor were referred to the microscopic committee

Philadelphia Pathological Society —At a meeting of this society, held November 10, Dr George E de Schweinitz presented several mounted specimens of sarcoma of the choroid and sectional drawings, together with micro photographs and stained specimens of metastatic carcinoma of the choroid Glioma of the retina was also spoken of Dr de Schweinitz thought his specimens of metastatic carcinoma of the choroid the twenty seventh on record Dr J H Jopson read a paper, and presented a specimen showing epithelioma of the penis He stated that a superficial section, obtained previous to operation only, showed the growth to be papillomatous, but deeper sections obtained afterward revealed its malignancy Dr Joseph Sailer read a paper, and presented specimens of a species of worm he had discovered and identified as being the louse of strongylus pneumonia in sheep, an epidemic disease which has proven to be very malignant in certain regions of the State Dr John M Swan presented a case of anomalous position of the cecum, showing that its position had been maintained in the epigastric region during the life of the patient

Third Pan American Medical Congress—Postponement

INTERNATIONAL EXECUTIVE COMMISSION OF THE
PAN AMERICAN MEDICAL CONGRESS
OFFICE OF THE SECRETARY, CINCINNATI, Nov 5, 1898

My Dear Sir —I have the honor to announce that in April, 1898, I received from Dr José Manuel de los Rios, chairman of the Committee on Organization of the Third Pan American Medical Congress, a request that, in consequence of the then existing rebellion in Venezuela, no definite arrangements be made at that time relative to the meeting of the Congress previously appointed to be held in Caracas in December, 1899

The following communication relative to the same subject is just at hand

CARACAS, Sept 25, 1898

Dr CHARLES A L REED, Secretary of the International Executive Commission, Cincinnati, Ohio

Dear Sir — After having sent my communication dated April last, I find it to be my duty to notify you, that although the considerations pointed out in it have already ended, our country has been scourged by smallpox, which has taken up all our physicians' activities and time, depriving them of going into scientific works And, as that state of mind of our people and government after such calamities as war and epidemic would greatly interfere with the good success of our next meeting, I beg leave to tell you, in order that you will convey it to the International Executive Committee, that our government and this commission would be grateful to have the meeting which was to take place in Caracas in December, 1899, adjourned for one year later, I am, dear Doctor, yours respectfully,

THE PRESIDENT,
(Signed) DR JOSE MANUEL DE LOS RIOS

In accordance with the request of the Government of Venezuela and of the Committee of Organization, the Third Pan American Medical Congress is hereby postponed to meet in Caracas in December, 1900

For the International Executive Commission
CHARLES L REED, Secretary

Medical Society of Kings County —The appellate division of the supreme court of New York has reversed the mandamus procured by the oldest medical society having its headquarters in Brooklyn, by which it was relieved from the payment of taxes on real property The mandamus having been appealed by the Board of Assessors, the latest ruling will require that the society shall pay the bills for taxes, amounting to several hundred dollars Judge Woodward, who wrote the decision for the appellate division, said that the theory of the law disfavored exemptions from taxation, except in that class of cases where the property is to be put to some use calculated to minimize the expense of government The society grounded its petition for exemption on the establishment by it of an organization for mental improvement and for certain educational and charitable purposes This, according to the decision of the court, is most commendable in the physicians making up the medical society, but it does not entitle them to exemption from taxation under the laws of this State There is no allegation that the society is organized for the exclusive purpose of carrying out any of these objects, and if there was it would still fall short of the requirements There is no claim that the purpose of the society is to improve the morals of either men or women, or that it is for religious, missionary, hospital, patriotic or historic purposes In other words, the society is performing no service of a character calculated to relieve the burdens of government more than a thousand other mutual associations or corporations designed for the promotion of the individual development of its members It is in effect a medical club house, where the members of a single profession meet for "mental improvement" and such incidental benefits as flow from association and co operation of effort

Washington Medical Society —At the meeting held November 9 Dr D S Lamb presented the heart from a 13 year old boy, and gave the following history While climbing a fence the child accidently thrust a needle into the heart In extracting the needle a portion remained For two days the patient suffered no evil effects, at the end of that period he fainted and suddenly died Autopsy showed a portion of the needle in the heart just below the pulmonary valve Death was caused by hemorrhage and pressure He also presented a case of ulcerated carditis with abscess of spleen The heart showed vegetations in the aortic and mitral valves Organism causing disease not known Dr J Taber Johnson presented a calcified myoma of the uterus, which he removed from a patient aged 61 years, she had had the tumor for twenty years Three years ago she had a sudden abdominal enlargement with febrile symptoms, several gallons of fluid were drawn off and the mass connected with the uterus removed The mass had undergone calcareous degeneration and resembled a fetal head Dr Fry presented a dermoid cyst in the right ovary The patient was 38 years of age, and was supposed to have suffered from floating kidney in its normal position The left ovary was also found to be cystic The dermoid contained hair, teeth and bones The other ovary contained a similar kind of fluid, and was supposed also to be dermoid Dr Fry read a paper entitled "Antistreptococci Serum in Puerperal Sepsis" Dr Fry was one of a committee appointed at the last meeting of the American Gynecological Society to investigate the use of serum in the treatment of puerperal sepsis He referred to the Paris Maternity, where in a case 8 c c of serum were used on the first day, with no effects The second day 8 c c better, and the third day 25 c c was used, followed by improvement and convalescence Of 119 cases reported 77 were cured, 42 died—35 per cent mortality—consequently this mortality is higher than the modern antiseptic treatment He considered the treatment indicated only in cases of streptococci infection, and bacteriologic investigation necessary Of 46 inquiries, 14 were favorable and 35 unfavorable Barton Cook Hurst has no faith in it R C Norris uses it in all cases, and considers his life saved by it Munde, three cases, is pleased E P Davis, total failure in many cases, but great success in others It is called for when free flushing fails E P Reynolds says it controls chills Dr Fry thinks it has a limited field 1, the cases must be of streptococcus infection, 2, stage of disease is important—too late when streptococcus is in the blood, consequently should be given early If local the patient suffers most from ptomain poison Serum is of benefit when given in doses of 5 to 10 c c, bad cases require larger doses Fatal cases have rapid pulse, low temperature and uncontrollable vomiting He thinks curetting harmful in streptococcus in fection, except when necessary to remove diseased tissue Curette valuable only in sapremia He cited two cases In one, abortion, patient had delirium, cough, temperature 105, serum given and transfused, grew worse and died, laparotomy showed necrosis of uterine wall, supposed to have been punctured with an instrument Concerning the use of thyroid extract in uterine fibromata, he claimed it reduces tumor and controls hemorrhages He reported four cases two young women with hemorrhage and two after menopause, all improved Long continued use of drug causes anemia and palpitation

NECROLOGY

LOUIS BOWER, M D, St Louis, Mo, died in New York City, November 5, aged 84 years Born in Stettin, Germany, of poor parents, he put himself through school by teaching, and soon after his graduation was appointed district surgeon to look after the poor and needy The district of Stolb sent him to the lower house of the Prussian Reichstag, and there he championed the cause of the democrats to such an extent that he was sent to prison, but while in jail was re elected Before he took his seat he discovered that the Government feeling was such as to necessitate his flight, and he settled in London After his flight the German Government passed sentence on him and decreed that he should spend eleven years in prison This sentence was in force until 1870, when a general amnesty was extended to all political refugees In 1854 he settled in Brooklyn, N Y, and there helped found the Long Island College Hospital In 1869 he located in St Louis, and there founded the College of Physicians and Surgeons, but after three years gave it up Shortly after, he again started it and was its Dean until three years ago Probably his best known work is "Orthopedic Surgery" He also translated many German works into English

A M MILES, M D, Harvieland, Ky, died on the 2d inst of consumption, after a long illness He had recently removed to that place from Shelby County

PERRY H BENSOOTER, M D of Peely, Pa, died at Lexington, Ky of typhoid fever, November 4, on duty as contract surgeon at Camp Hamilton He was a graduate of Jefferson Medical College, and 30 years of age

E L BETTERLY, M D, Wilkesbarre, Pa, died November 3, aged 67 years During the Civil War he was surgeon of the One Hundred and Sixty fifth N Y Infantry, and later major of the same regiment

D R DEWEY, M D, North Adams, Mass, died November 5 from disease contracted at Chickamauga, while on duty as an army physician

JOHN HELM, M D, N Y University, 1861, died November 7 at his home in New Brunswick, N, J, after a long illness He was a veteran of the Civil War and had been a member of the Board of Education for eleven years

CARL ENGLEHARD, M D, Chicago, November 6, aged 64 years ——J St Pierre Gibson, M D, October 31, aged 66 years ——F S C Grayston, M D, Huntington, Ind, November 6 ——John H Kappel, M D, Fort Wayne, Ind, coroner of Allen County, October 31, aged 28 years ——J M Marsh, M D, Delphos, Ohio, November 2, aged 35 years ——Fred Merrick, M D, Barclay, Md, November 4, aged 36 years ——J H Mullens, M D, Waco, Texas October 30 ——Abraham H Robinson, M D, Concord, N H, October 31, aged 85 years ——G Rutz, M D, Port Townsend, Wash, November 1, aged 68 years ——Christopher C Sharp, M D, New York City, November 5, aged 77 years ——Frank P Thompson, M D, St Louis, Mo, November 5

MISCELLANY

Tabetic Atrophy of Optic Nerve—Silex found forty four syphilitics out of fifty four cases of tabetic atrophy of the optic nerve Twelve had undergone a thorough specific treatment eight had been treated for years, fourteen with inunction cures and the rest with pills He concludes that even the most thorough treatment is not always able to prevent the development of this affection He found all treatment of the atrophy ineffectual, electric, potassium iodid, strychnin, argentum etc, administered in all kinds of ways The only possible means to retard the development of the affection is with strengthening therapeutics to tone up the organism, especially the nervous system —*Vienna Klin Rund*, October 30

Gasserian Ganglion—In the *Am Jour of the Med Sci* for November, Keen and Spiller present "Remarks on Resection of the Gasserian Ganglion," with the following method for the preservation of the eye in that operation Either immediately before or at the close of the operation disinfect the eye and sew the two eyelids together by two or three stitches, near the margins, drawing together only the middle of the lids This leaves the two ends open sufficiently, first, for washing the space between the lids and the eyeball with a warm boric acid solution, to wash away any mucus, and also leaves enough space to observe the cornea when the patient looks strongly to one side This occlusion of the lids should last not less than four or five days, when the stitches may be cut and the eye immediately covered with a Buller shield, i e, a watch glass held in place by means of either a circular fenestrated disc of rubber plaster or by four separate pieces of plaster The shield should be used from ten days to a months after the operation

Large Excision of the Omentum—Montini describes, in the *Gazz d Osp* of September 11, a case of strangulated hernia with threatening symptoms, in which the hernia only contained a small normal intestinal loop, with a very large amount of gangrenous omentum, which he was compelled to excise The patient made a good recovery, and has shown no disturbances from adhesions to date, although the excised portion of the omentum was about 40 cm square

Adherent Retroposed Uteri—Pryor (*Med News*, October 29) enters the pelvis at its lowest point, through the posterior cul de sac, in three cases, and finds suturing necessary only when large portions of the ovary are removed, opening small sprouting vessels He considers that this method allows conservatism as in no other method of operation Following thorough preparation of the vagina the uterus is curetted and then, selecting the fold behind the cervix which marks the reflection of the vagina, he enters Douglas's cul de sac After digital exploration the incision is spread laterally until the posterior retractor can be introduced The uterus is then "lifted up into the abdomen by the curved trowel and several gauze pads are inserted into the pelvis" The patient is then put in Trendelenburg's position, when the operator is enabled to see and treat the adnexa as desired Drying the pelvis, after the operation, iodoform gauze is introduced just within the incision and "these and the uterus replaced *en masse*, the cervix being forced as high as the vagina will permit," and gauze packed lightly around the cervix "until that portion of the vagina which is above the levator ani muscle is almost filled A stout roll of gauze is then made, varying in thickness and length to suit the width of the vagina" and inserted above the levator ani fibers, in front of the cervix, its ends in the lateral pelvic cavities, the cervix is thus kept anchored

Rupture of Symphysis Pubis During Labor—In the *Am Jour of Obstet* for October, De Lee reports two cases, one where the child was delivered spontaneously, the other after prolonged and difficult extraction Later, in the latter, operation revealed a large abscess around the pubic joint, which was ruptured the ends of the symphysis being three quarters of an inch apart and much evoked

Anthrax of the Lungs—Schottmuller observed two cases in persons employed in sorting rags and wools in which infection had evidently occurred by inhalation of the germs The diagnosis is difficult, but is indicated by severe cyanosis such as only accompanies pronounced disturbances in compensation and also by severe collapse after slight exertion There is usually a pleural effusion but no certain indications of [illegible]

The very high temperature at first falls below normal in the course of two or three days The prognosis is very grave —*Munich Med. Woch*, No 39

Composition of Diphtheria Toxin —P Ehrlich states that besides the essential toxin in diphtheria poison there are other substances very much less toxic, "toxoids," which are important, however, as they bind the antibodies the same as the essential toxin As a diphtheria bouillon culture stands, the toxin diminishes while the toxoids increase He classifies the toxoids as protoxoids, which have a stronger affinity for the antitoxin than the genuine toxin, syntoxoids, which have the same affinity as the toxin, and epitoxoids, which have less affinity He considers the latter a primary product of the bacillus and not a transformation product of the diphtheria toxin, and calls them "toxones" These toxoids and toxones are not simple substances, but can be subdivided into what he calls proto, deutero and tritoxins His research proves that in the diphtheria toxin molecule there are two independent atom complexes One is haptophorous, that is, it binds the antitoxin, the other is toxophorous, the cause of the specific toxic effect Experiments on frogs disclosed that the first exert their effect even when cold, but that the toxophorous require warmth before they can affect the cells This difference in time explains the incubation period There seems to be a further possibility that the protoxoids are able in certain circumstances to effect a direct cure by forcing the toxin out of its combination with the elements of the tissues, by means of their stronger affinity for it —*Deutsche Med Woch*, No 38

Army Medical Examining Boards —Several boards of army medical officers are or have been recently in session for the examination of medical men for position or promotion One board, convened at the Army Medical Museum, examined medical officers of the army for promotion in accordance with the requirements of the existing law Another board for the same purpose was convened in Santiago, Cuba, to obviate the necessity of sending the officers concerned home for examination A third board, to which greater interest attaches, is examining candidates for appointment as assistant surgeons at the Army Medical Museum Building This Board consists of Colonel Dallas Bache, assistant surgeon general, Majors J C Merrill and Louis A La Goode, surgeons U S A, Major Geo E Bushnell, surgeon U S Vols, and Captain E L Munson, assistant surgeon U S A There are fifteen actual and also some prospective vacancies to be filled, but it is said that the Board will probably succeed in filling them, as the professional qualifications of the candidates are above the average Another board was convened in the same building, November 2, consisting of Major Walter Reed, surgeon U S A, Major Victor C Vaughan, division surgeon U S Vols, and Captain George D De Shon, assistant surgeon U S A, for the examination of acting assistant surgeons Until recently the current work of the Army Medical Department was so great and the need for assistance so pressing that contracts were made with medical men on the strength of the letters of recommendation which they had filed with their applications for position Now, however, it appears that candidates for these positions will have to demonstrate their professional qualifications before getting an assignment to duty

For Female Contract Nurses in the Army — Surgeon General Sternberg has issued a Circular defining the status, duties, and privileges of contract female nurses as follows

Contract and Duties —The contract which is made by the Surgeon General with a female nurse for Army service is for an unlimited period In signing this contract and taking the oath of office a nurse is understood to promise that she will perform the important duties entrusted to her with unwavering devotion to the welfare of her patients and with the dignity of demeanor which is essential for Army service Reports of each nurse are sent to the Surgeon General, and on these reports action is based

Pay —While under contract a nurse receives $30 a month salary, payable either on pay rolls or vouchers While nursing at a hospital she receives also her lodging, board and laundry of uniforms Expenses incurred for these things by a nurse will not be refunded

Uniform —No uniform for nurses has as yet been prescribed, but for the present a nurse is expected to furnish and wear such dresses, aprons and caps as are usually considered suitable

Chief Nurse —If the surgeon of a hospital so requests, the Surgeon General may appoint a chief nurse, whose duty it shall be to look after the welfare of all of the nurses in the hospital, to see that they are comfortable and that they receive attention when ill, to assign each to her specific duty and see that the hours of such duty are strictly kept She is also expected to have supervision of the general deportment of the nurses and to perform such other duties as the surgeon may direct, but not to undertake nursing herself

Traveling Under Orders —After signing the contract a nurse is subject to military discipline and must promptly obey any order given her When traveling under orders she must not stop on the way She must not, under any circumstances, leave her post or take any journey without written authority from the Surgeon General or from the surgeon under whom she is serving When traveling under orders she will be furnished in advance with transportation This means an order for her railway ticket and sleeping car berth, which are exchanged by her at the station for regular tickets

Leaves —A nurse will not receive pay for time absent from duty unless given by the surgeon—*in writing*—a sick leave or leave of absence "with pay" This must be for a specified time, one week before the expiration of which the nurse must report in writing to the Surgeon General for orders, unless she already has orders to return to her former place of duty Should her services not be needed at that time the Surgeon General may annul her contract While on leave with pay the nurse is entitled to commutation of rations at the rate of 25 cents per day To obtain this she must, when she returns to duty, apply to the surgeon, who will endorse her papers of leave and forward them to the nearest commissary

Leave of Absence —When a nurse is granted leave of absence at her own request, she does not receive pay for the time absent, unless the surgeon grants—*in writing*—a "leave with pay," which can not exceed ten days or be allowed soon after entering the service As she is not traveling under orders she does not receive transportation

Sick Leave —In case of sickness contracted in the line of duty, a nurse is entitled to medical attendance either in her quarters or at the nearest available army hospital But if she prefers to return home, or to some other hospital, the surgeon may grant a sick leave with pay (for thirty days) If the surgeon also gives her written orders to proceed to her destination, she will then be entitled to transportation, as explained above In such a case another nurse may if necessary, be ordered to accompany her, and transportation furnished her also If unable to return to duty at the end of the sick leave a certificate from the attending physician stating this fact, and the probable date when the nurse will be fit for duty, must be forwarded to the surgeon granting the sick leave or to the Surgeon General, if she has no station This certificate is sufficient to cover absence for the term specified therein Bills for medical attendance can not, under the regulations, be allowed

Transfer —Transfers from one hospital to another are ordered only when the necessities of the service require it The preference of a nurse is consulted whenever possible, but she is expected to remain at the hospital to which she is assigned so long as her services are needed there Nurses who go to Porto Rico or Cuba are expected to remain at least six months, if their services are satisfactory

Annulment of Contract —The contract of a nurse may be annulled at any time by the Surgeon General or by his direction A nurse is not expected to request such annulment before the expiration of two months unless able to give satisfactory reason therefor

Transportation, as above defined, is given on annulment of contract, except when "for misconduct or neglect of duty"

Transportation will be to place of making the contract, except that when made at the place of duty it will be furnished to the place designated in the contract as her residence

The War Investigating Committee —The following is the testimony of the volunteer medical officers of the army before the Committee of Investigation, at the sessions held in Chicago, Nov 7-10, as reported in the daily press

Dr Lewis Schooler of Des Moines, Iowa, was the first witness From June 7 to July 17 Dr Schooler was stationed at Camp Thomas as chief surgeon of the Second Division, Third Corps Questioned by Dr Conner, he said that during the time he was there the sanitary conditions in the hospital were not very good, that the sinks in the whole division were bad, owing, principally, to the character of the ground, and that the discipline was rather lax

"At the opening," said Dr Schooler, ' there were practically no facilities for the care of the sick, we were short of medicines and had no apparatus by which the stewards could prepare the medicines we had The regimental hospitals, all but one or two, were as poorly supplied with medicines as the division hospitals Requisitions were made for more, but they were generally disapproved at the camp headquarters I do not know that the requisitions were absolutely turned down, but they were frequently reduced It was in reference to the quantity rather than to the articles themselves that difficulties arose I think the supply department issued stores according to its ability, but not always with promptness It had certain hours for issuing supplies, and at other times nothing could be obtained

"There was a scarcity of beds in the hospital, but I never saw a man lying on the ground I went through the hospitals every morning and inquired of every man able to speak if he had been neglected in any way Very seldom was there a complaint from a man who was really sick Sometimes they complained about the lack of medicines Occasionally patients recovering from typhoid fever complained about the diet, just as any convalescent fever patient would do at home So far as I know there was never any patient neglected to such an extent that his chances of recovery were materially reduced At one time practically half our nursing force was sick or in the guardhouse for insubordination "

Dr Conner—Why was not a demand made by somebody that better or more nurses should be sent to that place?

Dr Schooler—I don't know I wrote the surgeon general once, protesting against the difficulties of securing supplies Part of the blame rested upon the quartermaster's department

Asked to give in as few words as possible, his opinion about the general conditions at Camp Thomas during the time he was stationed there, Dr Schooler said

"In the first place, the quartermasters and surgeons could not agree as to the number of tents we should have Colonel Lee contended that we were limited to a certain number of tents, seventeen I think it was in the beginning We afterward prevailed upon him to give us twenty one His contention was that he could not issue tents beyond the prescribed number I think he based the number of tents upon 150 patients and when the number of patients became greater we could not make him understand that we had to have more tents It was his refusal to increase the number of tents that made the overcrowding

"The lack of medicine, the lack of trained nurses and the lack of a sufficient number of surgeons was a material difficulty One cause of the prevalence of sickness in the camp was that we had three regiments who came there with a great deal of sickness—the First Mississippi and the First and Second Arkansas There was much typhoid and dysentery in these regiments I think the quartermaster's department was largely responsible for the great sickness, the medical department (that is the supply department) was also responsible for some things Then we lacked facilities to make reports on—did not even have stationery We were told all the time that reports must be made "

Dr Conner—So far as you know, was there on the part of any medical officer or surgeon any wilful neglect in the care of the sick?

Dr Schooler—No sir The great difficulty was in obtaining supplies, and I think the hitch came between Colonel Hartsuff and the medical supply department

Dr Schooler said he never knew Dr Hubbard to force medicine down a patient s throat, as had been charged, although he though that might sometimes have been necessary if the patient were delirious He said he never knew of patients in any considerable numbers being kept in regimental hospitals until they were moribund and then sent to division hospitals For the successful care of the sick Dr Schooler considered the division hospital far superior to regimental hospitals.

"I left July 17 " he said, "before any epidemic had set in In my judgment the responsibility for the continuance of the conditions there does not rest upon the division surgeons If there is any responsibility it rests somewhere else The surgeons in our division were hard working and faithful

In regard to the water supply at the camp, Dr Schooler stated that he did not think any of the surgeons in his division considered the water fit to drink There were not enough teams at the disposal of the officers to enable them to bring sufficient water When asked for his reasons why he considered the water unfit to use the doctor said that upon several occasions he had visited the ground around where the supply was taken from the river and felt convinced from what he saw that much of the prevailing disease was caused by the negligence of the policing department in allowing the soldiers to go at will through the woods situated along the banks of the stream He gave this as a reason for many of the cases of typhoid fever existing in the camp

Another feature which contributed largely to the sick list in the opinion of the Doctor was the laxity shown in issuing passes to the men and allowing them to visit other camps "Fifty per cent of the sickness," said the Doctor, "would not have been in existence had the men not been allowed to leave Chickamauga Park on passes ' He gave as his opinion that the medical officers were hampered too much by officers of higher rank, but who had no medical training In regard to division hospitals the Doctor said

' I think there should have been a hospital at Chattanooga where patients could have been taken who were going to be sick any length of time The division hospital was never intended for this class of patients " When questioned as to the lack of nurses, the Doctor said he thought both the nurses as well as the officers were overworked

In many cases one nurse was compelled to take charge of twenty, thirty and sometimes forty patients during the night, which was too much to expect of one person No blame could be attached to the doctors, as they would start out in the morning on their rounds of duty and would be on duty until late at night When questioned as to the complaints about starvation, the Doctor said that a great many of these were entirely unwarranted As to the general conditions surrounding the patients in the hospital, the Doctor gave it as his opinion that the average soldier was just as well treated there as he would have been at home, excepting, perhaps in the line of bathing In this direction he possibly might have received more attention but this only affected the comfort of the soldier and did not necessarily affect the mortality in camp

Dr Nicholas Senn said

"When I reached Chickamauga there were 10,000 soldiers encamped there There were already a good many cases of typhoid fever and the disease was spreading rather rapidly I do not believe it would have been possible to isolate the patients so as to keep it from spreading Chickamauga was an ideal camp for a short period, but for a prolonged camp I considered it dangerous The typhoid fever was brought there, it was spread by flies, and the sewerage and sanitary arrangements were imperfect These conditions made disease inevitable The sinks were properly dug but they were not properly policed The hospital arrangements were as good as could be expected "

Dr Senn was next questioned about conditions at Santiago and Siboney He said hospital supplies were scarce and the medical force was small, yet the materials at hand were so well utilized that the number of deaths was comparatively small The supplies, he said, could not be landed for want of lighters Speaking of the treatment of sick soldiers brought North on the *Relief*, he said

"The *Relief* was a model hospital ship I came North on her, and there was space for 250 passengers, while she carried only 147 The men were well cared for We had six female nurses and eighteen male nurses, and the nursing arrangements were as perfect as possible The sick had the best care it was possible to receive on a ship When the *Relief* went back to Porto Rico I went with her She carried everything needful in the way of hospital supplies, and indeed was a relief ship At Porto Rico the sick had better care than those in Cuba, as the supplies were more generous I accompanied the ship North again when the sick she carried were landed at Montauk Point

"Do you know whether any transport left Porto Rico carrying 170 sick men, with no medical supplies? ' asked Dr Conner

"If such was the case I never heard of it

Speaking of the conditions of Montauk Point Dr Senn said for a short camp it would have been all right, but the location was such as would foster disease when it was occupied for a long time Regarding hospital arrangements he said

' The hospital construction at Montauk was the marvel of this short war I don t believe any war recent or remote can furnish an example of such perfect hospital accommodations furnished in such a short time The equipment was luxurious The government gave us ever thing we [illegible] in the way of delicacies, and the Red Cross spent [illegible] a day there The sick soldiers lived in luxury Of course there were times when there was congestion, but this could hardly be avoided, as ships were landing men nearly every day "

Dr Senn said the only criticisms he had to make were a lack of co operation between the quartermaster's and the medical departments, which delayed supplies, and the detailing of medical officers to executive work, when their attention would have been better directed to surgical work

Dr Milo B Ward of Kansas City, Mo , who was a brigade surgeon at Camp Thomas from July 12 to September 10, when asked as to the condition of the hospitals, said that there was a great lack of medicine, only some of the simplest being on hand He said that the food would have been all right had it been properly cooked He said he knew of several cases where the patient was allowed to lie on the ground the whole day and also during the night before taken to the hospital

Seventy five per cent of the patients were on cots and the other 25 per cent were on stretchers on the ground Some times at first some of the men were put on the bare ground, but within a few hours they were always put on cots or stretchers

Dr Conner—"What was the reason that the Second Division Hospital of the Third Army Corps had the worst reputation of any hospital during the war?"

Dr Ward—"The first reason, in my judgment, is that the hospital had for its corps surgeon a man who never paid any attention to it whatever. His name was Hoff The next reason is that the man in charge of the hospital, the division surgeon, seldom visited the hospital or paid any attention to it His name was Jenney The next reason is that there were not enough doctors at any time to take care of the patients without overworking the doctors and making them too ill to get out of bed

"The stores that were necessary were not available from the army supplies Milk and ice were obtained from other sources Had it not been for the Red Cross some of the soldiers would have starved "

Dr Connor—"Who was responsible for this?"

Dr Ward—"For the condition of the camp, first, the man who insisted that the camp was perfect, and that the hospital was well run That man was General Boynton He was responsible for keeping the army there when that army ought not to have been kept there The want of supplies was due to the fact that the quartermaster's and commissary's department were not hounded enough "

"What was your opinion of the location of the hospital?" was then asked the Doctor

"The location of the hospital was extremely bad, in my judgment," he replied

Dr Wm Cuthbertson of Chicago was then called to the stand "After locating our camp," he said, "we immediately made details to provide for sanitary conditions The surface soil was shallow, and on digging three or four feet we would strike water The ground was perfectly non absorbent and the sinks being used by the men would become in a filthy condition in a short time "

He then went on to show how that, whenever a rain occurred, these sinks would become flooded and thus result in an unsanitary condition This was the beginning of the trouble When a requisition was sent in for quicklime with which to disinfect the camp there was no supply of that material The Doctor then went into details to show how the medical department was handicapped by the lack of many necessary articles for the perfect sanitation of a camp The question of regimental hospitals as compared with division hospitals was then brought up It was the opinion of Dr Cuthbertson that in theory the division hospital was superior, although from his experience he thought that in many cases the regimental hospital was better for the men, as they were then under the charge of physicians who were more liable to take a personal interest in the patient

Dr G A Smith of Clinton, Iowa, was appointed a brigade surgeon and served from July 14 to September 10 He was in charge of the hospital of the Second Division of the Third Army Corps at Chickamauga He was questioned at considerable length

Dr Smith—When I assumed my duties at the second division hospital on the 14th day of July I found a shortage of tents and cots The patients in the hospital were crowded on account of shortage in tents, and some of them were lying on the ground on account of lack of cots There was no provision made for feeding the sick other than the rations issued to the soldiers in the regular service, except such as were brought in by charitable organizations, principal of which were the Red Cross Society and the National Relief In the pharmacy there were at that time no intestinal antiseptics, although the commanding officer informed me when I made a requisition for these that he had made repeated efforts to get them The pharmacy at that time—and, indeed, until it was ordered closed and I turned the stores over to the Government on the 9th of September—never had any proper equipment for doing pharmaceutic work There were no scales to weigh with and the hospital stewards used a board for a tile and an ordinary jack knife for a spatula There were no pill boxes or powder boxes The stewards dispensed tablets and pills in any paper they could secure, and they were carried to the wards in that shape, and owing to the prevalence of dampness at night they would become by morning a sticky mass not fit for use

The medical supplies did improve after the 1st of August, he said, but up to that time there had been a great scarcity of supplies The water was bad too

General Dodge—How about the water?

Dr Smith—The water that was furnished for the use of these hospitals up to August 1 was that taken from the pipe line from Chickamauga creek, and it was so full of sediment that it was simply slush and was not water

There were no floors in any of the hospital tents at the time I reported for duty at that hospital The first tent was floored soon after the middle of July, although some were not floored until long after that The floors in the tents of the Fifty second Iowa, the First Maine and the Fifth Missouri were all laid after the troops had left the park and were never occupied by the soldiers, and never had cots placed in them In fact, I might state that the floors were laid after orders had been received to pack goods preparatory to leaving for Anniston

In regard to nursing in that hospital, we had no trained nurses All the nursing was done by orderlies and many of them were densely ignorant, and when I was in charge of the wards of the Second brigade I had two men who could neither read nor write, and three men who did not know the meaning of "A M" or "P M" when written

In regard to the sinks, disinfection and drainage right back of the tents of the Second brigade there was a cesspool which contained most of the water from the camp, and that remained a stagnant pool until some time in August

In speaking of the infection of the camp, Dr Smith said a large part of the typhoid germs was carried around by the flies which invaded the grounds The water supply, he said, was not contaminated by sewage carried into it from the camp, but mainly by an inorganic sediment which acted as an irritant on the men's digestive organs and caused, in many cases, dysentery and other intestinal diseases

Dr Smith said he regarded Dr Milo B Ward, who testified the day before, as a very competent and a very conscientious man, and would not doubt any statements Dr Ward might make as to conditions at Camp Thomas

Dr Smith—I once wrote a report to the Surgeon General, but I think it never got any farther than General Boynton's office I was asked by General Boynton and Major Jenney to withdraw it, as it might get me into disfavor personally, but I told them there was nothing in it that I wished to withdraw

Gleanings —Acute infection, simulating a cerebro spinal meningitis in a woman of 61, no syphilis, probably of intestinal origin, causing an abscess of the liver and extensive thrombosis in the vessels of the pia mater of the spinal cord —*Nordiskt Med Ark* , xxi, 2 ——Ernest has succeeded in cultivating a bacillus from a case of pseudo melanosis, affecting the liver, spleen, aorta and kidneys, which reproduced the disease and is evidently the etiologic factor The bacillus is straight or slightly wavy, from 2 to 16 μ in length, slightly enlarged at one or both ends, motile, liquefies medium and generates an abundance of hydrosulphuric acid This fact tends to confirm an old theory that attributed the production of pseudo melanosis to the presence of free iron sulphid in the organs affected —*Arch f Path Anat* , clii, 3 ——Success of creosote carbonate in children's pulmonary infections, non caustic and not disagreeable to take ——Cure of large angioma of the lower lip with four treatments with bipolar electrolysis —*Presse Méd* , October 29 ——Case of complete dislocation of the foot without fracture (except of the bicycle), exclusively on the talocrural joint, the tip of the foot turned inward, the sole outward, the outer edge of the foot in front Easy reposition in narcosis ——Extirpation of the spleen on account of traumatic rupture, in sixth month of pregnancy, which continued undisturbed to normal delivery —*Vienna Klin Woch* , October 27 ——Jonnesco reports 23 splenectomies, all but one for malarial hypertrophy One died during the operation, seven since from various causes The rest much benefited He agrees with Laveran that the spleen is the receptacle of the hematozoon Leukemia is the only contraindication to the operation —*Bulletin de l'Acad de Méd*, October 25 ——Case of nasal secretions streaked with blue, reported by Molinié —*Rev de Laryng*, October 29

Washington

Columbian University Hospital —The college hospital was formally opened for the reception of patients November 1, on which day the dedication ceremonies were conducted The college building is located within one hundred feet of the medical department and will accommodate thirty patients Beds have been endowed by Drs W W Johnston, Middleton F Cuthbert, Gardner G Hubbard and the First Baptist Church The following constitute the hospital and dispensary staff Surgery, Drs J Ford Thompson, W P Carr, John Van Renssalaer, John Wellington and Frank R Hagner, medicine, Drs W W Johnston, D W Prentiss, G N Acker, G Wythe Cook, T A Claytor, B L Hardin, Thomas Dowling, obstetrics and gynecology, Drs A F A King, H L E Johnson, J W Bovee, H S Medford, V B Jackson, J E Jones and E E Morse, diseases of the eye, Drs D K Shute, W K Butler, F K Newell, diseases of the throat and ear, Drs C W Richardson, F P Morgan, diseases of the skin, Drs H C Yarrow, R B Carmichael, diseases of children Drs T E McArdle, Frank Leech, orthopedics, Dr A R Shands, diseases of the nervous system, Drs D W Prentiss E L Tompkins, Sterling Ruffin, A L Lawrence, genito urinary, Drs T R Stone, W T Birch, clinical laboratory, E A de Schweinitz and J E Carrol, pathology, Drs Walter Reed, U S A, and L W Glazebrook superintendent, Miss A G Odell, resident physician, C S White Donations are earnestly solicited from Baptists

Associated Charities —The report of the Associated Charities for the past month shows that fifty three investigations were made of applicants for free medical treatment, forty one were applicants for treatment at the Central Dispensary and Emergency Hospital, and of this number thirty one were approved, eight were refused and two were found to have given false addresses Twelve applicants for treatment at the Woman's Clinic were investigated, all of which were found worthy of free treatment

Report of Medical Supervisors —The first annual report of the Board of Medical Supervisors of the District, organized under the Act of 1896, has been submitted to the District Commissioners, and shows that 1047 licenses were issued to physicians who were registered previous to the operation of the act, 86 were examined by the board for license, of which number 42 succeeded, 12 failed and 26 were recommended for future examination Ninty five licenses were issued to midwives, under the law exempt from examination, and the board remarks, "most of these were given under protest, as the ignorance of the applicants made it impossible for them to comply with the regulations regarding report and registration of diseases" The board recommends that provision be made at one of the hospitals for the education of midwives, as, in the present state of social development, the services of midwives are necessary, but an unskilled midwife is dangerous and her ignorance a menace to public health The board recommends that a special officer be detailed to investigate alleged violations of the law by midwives and physicians Six applicants applied for license to practice and were examined E L Lemerle, Wm H Hughes, Jr, and Frederick H Mohart passed successfully and three failed

Honorably Discharged —Drs Luther Snowden and John W Bayne, majors and surgeons of volunteers, have been honorably discharged from the service Acting Asst Surgeon James R Church, the hero of the Rough Riders, has returned on furlough and will probably enter the medical service of the regular army Dr Church has earned his promotion, and is one of the best equipped surgeons of Washington He was formerly one of the surgeons of the Central Dispensary and Emergency Hospital, and filled his position with marked distinction

Health of the District —The report of Health Officer Woodward for the week ended November 5 shows the total number of deaths to have been 126, of which number 83 were white and 43 were colored The principal causes of death were Nervous diseases, 20, circulatory, 16 respiratory, 26, intestinal, 1 There were 6 fatal cases of typhoid fever and 5 of diphtheria At the close of the week there were 148 cases of diphtheria and 119 cases of scarlet fever under treatment There were 245 births, of which 115 were white and 130 colored

Physician to the Poor —On the recommendation of the health officer, the District Commissioners appointed Dr Vergil B Jackson physician to the poor, to serve during the absence of Dr Battle

Woman's Clinic —At the annual meeting of the Woman's Clinic, held November 5, the following officers were elected President, Mrs Emily Sherwood, vice presidents, Dr D S Lamb and Miss Eva Simonton secretary, Mrs M F Case The old board of directors, the consulting staff and standing committee were re elected Drs Heiberger and Norris were appointed drug committee for the ensuing quarter The annual report shows 562 new cases treated, 4866 visits made and 6500 prescriptions compounded

Civic Center —At the annual meeting of the Civic Center, held November 7, Dr W W Johnston read an interesting paper on the bad effects of school life on the hygiene of children Dr Nordhoff Jung addressed the society on the effect of school life on teachers Dr Samuel S Adams spoke on some of the so called school diseases Dr George M Kober read an address entitled "Many of the Causes of So called School Diseases"

Cincinnati

Appointment —Dr Otto Geir has accepted the position of junior assistant physician at the Worcester Insane Asylum, Worcester, Mass

Laura Memorial Hospital —This gift of Mr Alex McDonald of this city to the Presbyterian Hospital, was formally opened November 1, patients were admitted the next day

Academy of Medicine —At the regular meeting, November 7, Dr Joseph Eichberg exhibited a number of irregular, greenish, non faceted concretions which had been sent to him under the supposition that they were gall stones The patient by whom they were passed was supposed to have been suffering from gall stones and had been given a pint of olive oil, these concretions were the result By chemic and microscopic means he had succeeded in proving that they were composed entirely of fatty matters He also thought that these fatty concretions so often passed after the exhibition of a large amount of olive oil, were frequently mistaken for gall stones Dr Henry Bettman read a paper entitled "Some Suggestions as to Diet in Diseases of the Stomach" The principal argument insisted upon by the author was that patients afflicted with stomach trouble, or supposed to be so afflicted, were habitually put upon a too restricted diet Many of them were being practically starved to death, and the lessening of nutrition only aggravated the condition of the stomach No dietary could be put down for any one class of patients, every patient is a law unto himself He believed in the old saw "that one man's meat is another man's poison" and thought that the diet should be restricted only in that which the patient is unable to digest. Those who took part in the discussion were Drs Zinke, C R Holmes, Kiely, Fackler Oliver, Jones, Eichberg, Johnston, Langdon, J Louis Brown, Marcus, and M Brown

Louisville

Quarantine Commissioners —Governor Bradley has appointed Dr J M Mathews of Louisville and Dr J B Kinnaird of Lancaster as delegates to the National Quarantine Convention, in Memphis, Tenn

Medical Staff —The medical staff of the Home for Friendless Women has just been organized as follows I[illegible] Marshall, chairman Henry E Tuley secretary Louis Frank and Frank C Simpson, visiting physicians Wm Bailey and Preston B Scott, consulting physicians S G Dabney in charge of eye ear and throat department

Godshaw—Dr C C Godshaw, on October 31, was shot by a colored man servant, the ball entering the abdomen and penetrating the stomach and duodenum He was able to walk into his house, was shortly removed in an ambulance to St Joseph's Infirmary, where a laparotomy was done by Dr A M Vance, within fifty minutes of receiving the wound His condition the next morning was excellent

Bell—Capt Austin Bell of Hopkinsville has been appointed surgeon major of the Third Kentucky regiment

Orphans' Home—A meeting of the board of managers of the Louisville Baptist Orphans' Home was held November 2 Dr J B Marvin is president of the board and physician to the Home In the past twenty nine years the Home has cared for 1059 children, of whom one third came from Louisville There have been only seventeen deaths in the history of the institution and no fatal accident has ever occurred

Mortality Report—The health officer's report shows a total of 215 deaths during October, against 222 deaths for the corresponding month last year Consumption caused 19, pneumonia 15 inanition 14 and old age 10 There were 332 births and 58 marriages

Bowers—Dr Henry Bowers, the physician from this city who is seeking fortune in the Klondike, has written a friend that his prospects are very bright for amassing a fortune He is practicing medicine, has opened a drug store, and in connection with this is operating a vapor bath house, which is prospering He states that the miners are suffering largely from scurvy

Hospitals

By the will of R M Raab of Burlington, Iowa, who died recently, the Michael Reese Hospital, Chicago, will receive $1000 and the Old Folks' Home $500 Other bequests are Burlington Hospital, $1000, Mercy and St Francis Hospitals, also of Burlington, $500 each, Orphans' Home of Atlanta, Ga, $1000, Orphans' Home and Hospital of Baltimore, $1000, Philadelphia Hospital, $1000, Old Folks' Home, Richmond, Va, $500, two other benevolent institutions, same place, $250 each——Flushing Hospital, Flushing, L I, has been voted $10,000 by the Board of Estimate and Apportionment, provided, however, that the amount be earned by the institution before it can be received The Hospital will receive $1 a day for all surgical patients and 70 cents a day for all medical patients —Fire destroyed the hospital of the Wisconsin Veterans' Home, Waupaca, Wis, November 9 Loss $15,000, insured for $10,000——The formal opening of the new Samaritan Hospital, Troy, N Y, occurred October 22

Societies

The following recent meetings are noted

Connecticut—New Britain Medical Society, November 3

Illinois—Chicago Medical Society, November 9, Chicago Medical Examiners' Association and Chicago Medical Society—joint session—November 16 McLean County Medical Society, Bloomington, November 3

Maryland—Washington County Medical Society Hagerstown, November 9

Michigan—Barry and Eaton County Medical Association, Hastings, October 27

Missouri—St Louis Medical Society of Missouri, November 12

New York—Canandaigua Society of Physicians, Ontario, November 3

Ohio—Crawford County Medical Society, Bucyrus, November 4, Union District Medical Society, Hamilton, October 27

Pennsylvania—Lancaster County Medical Society Lancaster, November 2, Luzerne County Medical Society, Wilkesbarre, November 2, York County Medical Society, York City, November 3

Texas—Corsicana District Medical Association, Corsicana, October 31

Wisconsin—Rock County Medical Society, Janesville, November 4

THE PUBLIC SERVICE

Movements of Army Medical Officers—To Santiago Cuba Majors Wm Dolz and Wm Stephenson brigade surgeons to report to the Commanding General and Acting Asst Surgeon Wm C Warmsley from Washington D C via New York City To Havana Major Ezequiel de la Calle brigade surgeon as sanitary inspector from duty with the Seventh Army Corps To Ponce Porto Rico Capt Geo M Wells assistant surgeon U S A, for duty in the General Hospital To Manila P I Lieut Irving W Rand assistant surgeon U S A from post duty at Fort DuChesne Utah

To Camps in the South—To the First Army Corps Major Oscar C Seure brigade surgeon from the Sternberg Hospital to report to the Commanding General Major James D Glennan brigade surgeon to Lexington Ky to the First Brigade Second Division To the Second Army Corps To Camp Meade Pa Acting Asst Surgeon John S Schaub from Leechburg Pa To Camp at Augusta Ga Acting Asst-Surgeon B C Leonardi from Fort Huachuca, Arizona, and Major Lewis Balch brigade surgeon, to the Second Brigade Second Division To the Fourth Army Corps Majors Wm J Kernachan and Wm B Winn brigade surgeons to report to the Commanding General at Huntsville Ala Major John L Macumber brigade surgeon to the First Brigade First Division and Acting Asst Surgeon Rafael Echeverria to duty with the Eighth Cavalry To the Seventh Army Corps Major Geo R Fowler chief surgeon Vols relieved from duty with the Second Division to report to the Commanding General Major Paul Clendenin, brigade surgeon assigned as Chief Surgeon Second Division Capt W F Lewis assistant surgeon U S A, to the Cavalry Brigade Major Samuel T Armstrong brigade surgeon to report to the Commanding General at Savannah Ga, and Acting Asst Surgeon Frank E Artaud to Savannah Ga to the Fifteenth U S Infantry

To post duty, Capt Chas F Kieffer assistant-surgeon U S A, to Fort Meade S D Lieut Basil H Dutcher assistant-surgeon, U S A to Fort Du Chesne Utah and Acting Asst Surgeon Francis A Holliday to Willets' Point N Y, from Huntsville Ala

To General Hospitals etc To the Josiah Simpson Hospital Fort Monroe, Va Acting Asst Surgeon Charles F Craig from the Sternberg Hospital, Ga to the General Hospital, Fort Thomas Ky Acting Asst Surgeon James L Bevans To the General Hospital Fort Myer Va Capt Wm F Lippitt Jr, assistant-surgeon U S A To the charge of sick soldiers in Washington D C hospitals Major John W Bayne brigade surgeon

Sick leave granted Lieut B K Ashford assistant-surgeon U S A, and acting asst surgeons Henry R Carter Jr John Horn Ray A Wilson, Isaac W Brewer and Wm E West

Honorably discharged—the following Majors and brigade surgeons Arthur Snowden John W Bayne James M Jenne and Joseph K Weaver Major Jefferson D Griffith chief surgeon Vols and the following officers of the regular Army (their volunteer commissions only) Lieutenant Colonels John Van R Hoff and Valery Harvard, chief surgeons Majors Adrian S Polhemus Charles B Ewing R W Johnson Paul Shillock Ogden Rafferty Chas T Newkirk and Walter D McCaw brigade surgeons, Vols

Resigned Major Frank Boyd surgeon Third Ky Infantry Lieut H M Smith assistant surgeon First Territorial Vol Inf Lieut D S Humphreys assistant surgeon Third Miss Inf and Lieut Otway W Rush, assistant surgeon, U S A

Annulment of contract Acting Asst Surgeons Frank T Disbrow and George G Morris ordered home from Porto Rico

---

CHANGE OF ADDRESS

Bell S D from Phoenix to Fort Apache Indian Agency White River Ariz
Borst, H from Chicago Ill to Oelwein Iowa
Beem E D from Kansas City Kan to 1117 Holmes St, Kansas City Mo
Birkofer W J from Dickens to Bradgate Iowa
Campbell, T F from Blunt S Dak to Benkelman Neb
Dickinson I W from Keswick to Boone, Iowa
Dwire D from Burbank to Wilmington, Cal
Fowler W S from Chicago Ill to Nordhoff Cal
Fitzpatrick G W from Temple Building to 400 Garfield Ave Kansas City Mo
Gamble W E from Blue Island Ave and Harrison to 400 Reliance Bldg Chicago Ill
Huecker J from Denver Colo to Waupon Iowa
Holleman P W from Roseland Ill to 2555 E 111th Pullman, Ill
Moe A J from La Crosse to Chaseburg Wis
McMurchie, from 116 Lysander to Emergency Hospital Detroit, Mich
McCurry I L from Hartwell to Toccoa Ga
Nichols C L from Omaha Neb to 35th and Wabash Chicago Ill
Pinto A S from Panama Park Fla to Savannah Ga
Parker D L from 835 to 397 Jefferson Ave Detroit Mich
Stockton S from 413 N Delaware to Insane Hospital Indianapolis
Soule C E from Chicago to Sheridan Ill
Stover, E E from Essex to Lacelle Iowa
Thomas F W from Marion Ohio to Pueblo Cal

LETTERS RECEIVED

Adams W A Little Rock Ark Ammonol Chemical Co New York N Y Allen & Hanburys Ltd New York, N Y Alma Sanitarium Co Alma Mich

Banks J N, Indiana Pa Beck Carl, Chicago Ill Becker E C Chicago Ill Bishop L F New York N Y Boston Gore and Webb Mfg Co Chelsea Mass Bouton W C Waukegan, Ill Black W D St Louis Mo Brobeck A L Wellington Ill

Chicago Oxygen Gas Co, Chicago Ill Clough J A, Pepin Wis Cook, W E Geneva N Y Curry E M St Louis Mo

Derrick Paul E Advertising Agency New York N Y De Young R J Columbus Ohio Durham Chas E Galveston Texas

Egan J A Springfield Ohio Eshner A A Philadelphia Pa Everett A S Brooklyn N Y

Fletcher W B Indianapolis Ind Fischer Louis New York N Y

Gillespie T W Lostant Ill

Hare H A Philadelphia Pa Hunter G T Denver Colo Hilts F Kansas City Mo Hall H L Toledo Ohio

Inglis David Detroit Mich

Jarrett H S Towson Md Jones P M San Francisco Cal

Keener, W T (2) Chicago Ill

Lukens A New York N Y Luttenberger J G M Dorchester Ill

Merrell Chemical Co The Wm S Cincinnati Ohio Manitou Mineral Water Co Manitou Colo McKnight W B Mansfield Texas Mellin's Food Co Boston Mass

Nind J N Chicago Ill

Paquin Laboratories The Paul St Louis Mo Parke Davis & Co Detroit Mich Pasteur Vaccine Co Chicago Ill Platt H B New York N Y

Reed C A L Cincinnati Ohio Rixa Alex New York, N Y Rosenthal E Philadelphia Pa

Smith Kline & French Co (2) Philadelphia Pa Sharp & Dohme New York N Y Senn N Chicago Ill Stearns F & Co Detroit Mich Scott & Bowne New York N Y

Trout E H Chicago Ill Trader E J Council O T Townsend W R New York N Y Thurston John Louisville Ky

Willard James Lovettsville Va Whitehead E J Columbiana Ohio Wine, R E Quicksburg Va Wingate U O B Milwaukee Wis Whittemore C A Grand Rapids Mich Wherry J W Chicago Ill Warner L H Brooklyn N Y Weaver W H Chicago Ill Williams G C Los Angeles Cal

The Journal of the
American Medical Association

VOL XXXI CHICAGO, ILLINOIS, NOVEMBER 26, 1898 No 22

ADDRESS

INTRODUCTORY TO THE ANNUAL COURSE OF INSTRUCTION

Delivered before the Woman's Medical School, Northwestern University
Oct 5 1898

BY I N DANFORTH, A M, M D
DEAN OF THE SCHOOL AND PROFESSOR OF THE PRACTICE OF MEDICINE AND OF CLINICAL MEDICINE
CHICAGO

A custom which has the force of an unwritten law has ordained that a course of instruction in a medical school shall be opened by a more or less formal address to be given by some member of the Faculty or by some one who shall be designated by the Faculty This year the choice has fallen upon me, and I therefore take my place on the program in obedience to the dictates of my colleagues While my remarks will be specifically directed to the class, they ought to have quite as much interest for our guests who have honored us with their presence this evening, since whatever interests our profession concerns our friends of the laity to an equal degree

It is now almost fifty years since a woman first forced her way into the medical profession, against the judgment of the great majority of the laity of both sexes, and in spite of the opposition of an overwhelming majority of medical men One can not read the simple story of Elizabeth Blackwell, narrating her early experiences as medical student and physician without being profoundly impressed with the fact that she paid very dearly for her triumphs and her honors Yet she *did triumph* and she *did* achieve undying honor, but more than that, she *did* open to her successors—to you, students of the present class—the doors to professional preferment so wide that they will never be closed again

But, notwithstanding the fact that woman has been fifty years in medicine, her position is not yet quite assured her claims to professional equality with men are not yet quite admitted her place in the ranks of citizenship not yet quite settled and, in fact, the woman physician is still by many people—otherwise sensible and self-poised—regarded as a kind of curiosity or freak of nature

I therefore ask your attention for a short time to a consideration of a few of these questions

1 How shall the woman physician establish her claim to professional equality with men? I answer First, by simply being a *physician* If woman is to practice medicine at all she must practice *all* medicine she must be an "*all round*" physician she must be the family physician, subject to calls from all members of the family—the father, the mother and the children she must treat all diseases in all sorts of persons, at all times and seasons, without regard to age, sex or social position In this way—and in this way only—can she establish and maintain her equality with man as a physician The very moment the woman physician attempts to draw the line and treat only women, or only children, or only certain diseases she abandons her claims to equality She erects a barrier as high as the Chinese wall, which separates her from association with physicians on terms of equality I have very many times heard the criticism from medical men that women were only "half physicians, because they only practice in a limited way All this must be changed if the woman physician aims at professional equality, she should be satisfied with nothing less Just as soon as the woman physician voluntarily limits the sphere of her practice, and thus admits, in an undeniable manner, her inability to maintain her parity with men just as soon will she begin to lag behind in the race for professional distinction And then will begin the process of professional degeneration in women, which can only end in her ultimate professional extinction

I answer, in the second place, that women must show their capability for original investigation in the various departments of medicine, and especially in laboratory work must, in fact, demonstrate that they are capable of doing quite as good work as men if they expect to reach the scientific altitude which men occupy I have always maintained that women ought to do better research work than men, because they are endowed with capabilities for such work of the very highest order More than that, I believe that there are women in the classes before me, who can hardly excuse themselves if they do not do original scientific work which shall redound to the honor of themselves and of their alma mater I have more than once urged upon the ladies of our classes the necessity for a "forward movement" in this matter of patient, painstaking toilsome, and especially thoughtful, original research work, in fact, upon one or two occasions I fear I have pressed my views with almost unwelcome emphasis But I feel that my long service in the cause of medical education for women gives me the right to some positive convictions and it is my positive conviction that we hardworking medical men have the right to expect more efficient help from medical women in the solution of the dark problems in pathology and bacteriology yet unsolved than we have yet had, and that this very graduating class before me ought to enrich the field of pathology by the addition of some facts now hidden in the dark portals of the future It is by such work as I now indicate, ladies, that you shall gain admission to the profession as the peers and equals of Sternberg and Klein and Ziegler, and other princes who now occupy the field to which you should aspire Some women have achieved such distinction we need not go far from home to find at least one but we should have more, and this Woman's Medical School hungers for daughters who will honor her by painstaking original research, with test-tube and microscope

2 What position shall the woman physician occupy as a citizen, or in her relations to the body politic To this I answer, without a particle of hesitation, that the woman physician should be a large-brained, large-hearted citizen, with a definite and positive work to do—a work which she may not delegate or neglect without incurring serious personal blame And just here I wish to say—in parenthesis—that physicians of the sterner sex are too often recreant to their duties in this respect When a hard and a close battle is to be fought against any current evil, the leaders are hardly ever physicians, and it is frequently hard work to get them to lift their voices or use their pens, or even go to the polls when a great moral or political question is at issue I always have had a measure of contempt for Nélaton, who declined to serve in the French Assembly because it would damage his pro fessional dignity, but who does not honor the great Virchow all the more because of his long and eminent services in the German House of Deputies as a states man and lawmaker? Away with the nonsense that because a man is a physician he must therefore be a cloistered monk, unfit for political responsibilities or duties But what relation shall the woman physician sustain to community, to society, to her neighbors? She can not vote—not yet The time may come, *will* come, I believe, when women can vote on all political and economic questions Personally, I do not care a farthing whether women vote or not I certainly have no objection to their voting, and if the responsibility of deciding the question were left to me, I should confer the ballot upon women and, then, with profound interest, I should watch the result But a woman physician should not sit and do nothing because she can not vote There is plenty of work for her to do —plenty of opportunities for practical usefulness

She can be a practical teacher of sanitary science in the community where she lives, and this is a sadly-needed work Every physician ought to be an educator—a teacher—from whom should radiate knowledge which the laity need, which they will gladly receive and which they can not get elsewhere But the woman physician has special facilities for teaching mothers and nurses the essentials of sanitary science as applied to the home, and therefore she has a special responsibility in that direction How frequently it happens in practical life, that a few words spoken to a mother may save her child from sickness —perhaps death How easily the woman physician, with her woman's tact and sympathy, can reach the ear of a nurse or mother, when a male physician who tried to do the same thing would only incur the charge of impertinence or meddlesomeness And so in other matters, the woman physician can, if she will, exercise an educating, elevating, indeed an almost evangelizing influence in the homes of her *clientèle* In matters of dress, diet, ventilation, exercise—in all things which relate to healthy homes, healthy mothers and healthy children—the woman skilled in medical science can exert an influence for good for which she must be held responsible in the final reckoning And as her opportunities are greater than those of the male physician, so is her responsibility greater A woman can enter where we can not, a woman can utter what we can not, a woman can do what we can not, therefore, she can exercise an influence and accomplish much that we can not

Remember this, young ladies when you begin your lifework, and remember also that when you are teaching the people the essentials of practical sanitary science, you are likewise preventing disease, which is an infinitely higher function than curing disease We are no idle dreamers when we say that, when all the people become practical sanitarians disease will be robbed of half its terrors, and we must add in the same breath that the principles of sanitation must be taught to the people nine times out of ten by their medical advisers And you—lady students whom I now address—must have a hand in this most beneficent work

Again Many of you will be so situated that you can take a practical and active interest in the common schools of your neighborhood The chief glory of our Republic is the common school Indeed, so long as the common school—the "district" school, the "little red schoolhouse"—is open to the children of our majestic country, liberty is safe, the people can never be enslaved, and government "by the people, for the people, and of the people" can never cease But the citizen has duties toward the common school, and the woman physician is a citizen, and that means you What can you do for the common schools? First, you can take a loving and living interest in it, and thus, by the force of your example, you can arouse interest in others You can visit the common school, seek the acquaintance of the teacher, if the teacher is a woman, and help her in her work Some of you have been teachers, you can help some youthful and inexperienced teacher over the rough places that beset her way and thus lend a helping hand to one who is in real perplexity If you are a good politician, you can get elected as a member of the school board and thus enable yourself to speak and act with authority The first and only political office for which I was ever a candidate, was Superintendent of Schools in a little New England village As party lines were strictly drawn, and my party was in the minority, I was promptly defeated, and grievously disappointed, because, among other reasons, I was in rather acute need of the salary, which was $25 a year I hope that you will have better success I hope you will become winning candidates for positions on school boards, with salaries as munificent as the one I missed, and opportunities for usefulness infinitely greater than the one to which I aspired in vain There is no higher or more imperative duty devolving upon the citizen than the care of the common school, and there is no edifice so important as the schoolhouse, no spot of ground more sacred or more hallowed than the dry and verdureless patch, on which the children of the common school expend their pent-up vitality You should make this priceless institution your care You can lecture on hygiene, you can instruct the children, and through them their parents, concerning the laws of health, you can exercise a mighty influence in the improvement of the school buildings, in improving methods of teaching, and in many ways which I can not suggest, but which you can see, as the occasion arises, you can exercise the influence with which you are endowed by reason of your position and education for the improvement and elevation of the common school

In that beautiful old story, "Locke Amsden or the School Master"—which I read so many times in my boyhood—there occurs an incident which illustrates the precept that I am trying to impress upon you The "district school" in the little Vermont town, commenced its winter's work under an enthusiastic sophomore, and in a bran' new schoolhouse The frigid weather came, the old "box stove" in the center of the schoolroom buzzed cheerfully as it got hotter and hotter day after day, the new windows fitted so tightly that they could not be opened, and the air became foul from accumulation of "carbonic dioxid", but the sophomore communicated his own enthusiasm to the scholars, and for a time all things went swimmingly, and everybody was delighted But by and by a strange langour began to creep over the school, the children sickened and dragged themselves about, listless and forlorn, one of them broke forth in his sleep and repeated the whole multiplication table without dropping a stitch, while another arose from his bed, solved a problem in arithmetic which he could not solve when awake, and went back to bed utterly unconscious of his exploit until he awakened next morning Meantime the schoolmaster had several times broken forth in school hours, and recited Latin quotations which were all "Greek" to the scholars—and probably to the teacher—and passages from Shakespeare, with wild and frantic gestures, and various facial contortions, in truly sophomoric style, indeed, on one occasion, when an uncommon apathy had stolen over the scholars, he wildly shouted that his name was "Norval," and that his father fed his flocks "on yon Grampian hills," when every scholar knew his name was Jeremiah Jenkins, and that the "hills" were only the Green mountains, and hence it began to be darkly whispered that the schoolmaster had formed a league with the evil one, and was practising the "black art" and "bewitching" the children So on a cold dreary winter's night, a school meeting was called in the schoolhouse for the purpose of "investigating" the schoolmaster, and ridding the excited community of his baleful presence, but while the people were solemnly discussing the awful situation in the close and heated room, the village doctor came in, sniffed the tainted air, and calmly informed the anxious group of citizens that ventilation was the cure needed for the form of witchcraft which they were fighting, and after the carpenter had lowered the upper window sash, and thus allowed the evil air to escape, the people sheepishly went home in a happier frame of mind—and the bright young sophomore became, of course, an apostle of sanitary science It is useless to add that he married the beautiful daughter of the richest man in town, that he went to Congress, and after a glorious and useful career, was gathered to his fathers Whether the story is true, or not, its lessons are true so far as they relate to the schoolhouse and its occupants, and the timely service of the village doctor, who did not confine his practice merely to administering Dover's powder and boneset tea to the sick, but who stepped out into a larger sphere, and became the guardian of the health and lives of the children of the common school Similar opportunities will come to you, not that you will encounter such superstitions as lead to belief in witchcraft and the "black art," but you will find plenty of schoolrooms, churches, halls, and even houses, where you can confer a real blessing by pointing out the necessity for fresh air and ventilation May I hope that you will improve the opportunities as they arise, and thus prove yourselves good citizens, as well as good physicians

I have pointed out a few of the duties which will legitimately devolve upon you, both in your relation to the profession and to society or the body politic Other duties or other opportunities for usefulness will arise as you accumulate experience and acquire influence I fully believe that you will make the most of your opportunities, and as a necessary corollary that you will make the most of your lives

Let me in conclusion glance for a moment at the past, and then for a moment at the future In an earlier part of this address I have said that about fifty years have elapsed since a woman made her entrance into the medical profession in this country At first glance one is inclined to think these fifty years have been rather barren of results, that too few women have reached professional eminence and made themselves felt in the medical world It is indeed true that the number of women who have distinguished themselves, either in practical or theoretic medicine, either in the hospital ward, the lecture-room or the laboratory, is small in comparison with the number who have graduated Nay, I will go a step further, and say that the ratio of distinguished medical women is smaller than the ratio of distinguished medical men, in comparison with the number of graduates Let us inquire briefly into the reason for this I do not think we will have far to seek

In the first place, twenty-five of these fifty years were spent in battering down the walls of opposition and prejudice on the part of both physicians and laity, which barred the way of the woman aspirant for medical honors Twenty-five years ago the woman who announced herself as a medical student had to encounter opposition, ridicule and not infrequently absolute insult, as she made her weary way toward a medical degree, which brought her few privileges and less honors She was not welcomed in the lecture-room, in the clinical amphitheater or the hospital ward It was not uncommon for the clinical professors to indulge in remarks which would bring the blush of shame to the cheeks of the lady students, and arouse indignation on the part of male students who were gentlemen as well, It would be impossible for a woman to do her best work under such dispiriting circumstances, and it is no wonder that but few reached the goal of their ambition But again, at the time of which I am speaking, after the female student graduated, she generally met with a very frigid welcome on the part of the profession, and hence she was alone in her glory She lacked that inspiration which a community of effort engenders, it is impossible for one to permanently keep the fires of enthusiasm alive in complete isolation Interchange of thought, interchange of counsel, comparison of efforts and comparison of results are necessary for the professional mind of woman as well as man, but these all important aids were frequently denied to the woman physician

Pardon me, ladies, if I mention one other fact which militates against the greatest success of women It is the fact that a majority of young medical women do not settle down to months and even years of hard, and often unrequited, labor, as the indispensable prerequisite of success There is no other road to success You must work incessantly—pay or no pay You must work in your libraries, in dispensary service, among the poor, anywhere, everywhere, night or day, so that you acquire experience, dexterity and knowledge Young medical women often shrink from the trying ordeal that awaits every young physician who seeks success in a large city, where competition is hot, and every desirable position is fought for by a hundred applicants And especially is this true, if our young graduate happens to be in a condition of financial anemia, as is too often the case Alonzo Clark—the greatest physician New York has ever produced—a man who stood as the acknowledged head of the profession in the field of pathology and practice whose consultation practice became so enormous that at last he had to refuse as many calls as he answered, spent his early years in dire poverty, haunting the hospitals, clinics and morgues of New York like a spectre—frequently lacking the means to buy a dinner—but always at work—at work—at work "Go thou and do likewise,' go hungry if you must, dress plainly if you must, endure neglect from society if you must, but study, observe, experiment, think, write—work hard and constantly, and success is sure to come I know, I have been through the same hard school myself, and so have some of my colleagues now here present

The position of woman in medicine is assured She has come to stay The past fifty years have been years of pioneer work, all honor to the noble women who have cleared away the obstacles and opened up a great highway for you Their work was necessary, see to it that you appreciate it at its just value, and render unto them the honor that is their due

Meantime a new woman is being slowly evolved. For twenty one years I have watched the evolution of the medical woman myself Fifty years more, or three generations from Elizabeth Blackwell, will be required to complete the work The medical woman,—the woman with the scientific cast of mind,—the hard-working, patient, self-denying, plodding student is almost here Her representative, her *avant courier*, is here—is in this very class, in the plural number—an earnest, a promise, a prophecy of the host yet to follow I shall not see the fruition of the promise, but, as I look back on my career as a medical teacher, now drawing to its close, I glory chiefly in the fact that I have had something to do in the work of opening the doors of medical advancement to American women

---

ORIGINAL ARTICLES

CHILDREN'S DISEASES

Presented to the Section on State Medicine at the Forty ninth Annual
Meeting of the American Medical Association, held at
Denver Colo, June 7-10 1898

BY CHAS H SHEPARD, M D

BROOKLYN N Y

Our purpose in this paper is to enforce the efficacy of heat in the treatment of the ills of infancy and childhood, as well as to illustrate the pleasing and peculiar adaptability of the Turkish bath, which is the most perfect form of using heat in all cases of disease What we have to say is based on experience in raising a large family, as well as some considerable practice with patients during a period of thirty five years

While a vast amount of disease and suffering that occur in early life is produced by errors in diet, clothing and exercise, a large portion of it comes from want of cleanliness, added to by impure air, unwholesome dwellings, etc Lack of knowledge is responsible for many pernicious practices that lead to debility, and too frequently an untimely end Impure air, of whatever nature, has the most deleterious influence upon infantile life, producing a startling mortality in all our large cities, and a want of cleanliness is equally well known to be many times more injurious Never was the old adage "Heat is Life and Cold is Death," more true than in the treatment of children's diseases The simplest and most desirable form of heat is that derived from the one indispensable source of all heat —sunshine We well know that all vigor comes from the sun, both to the animal and vegetable world that it vitalizes the nervous system, develops the red discs of the blood and also that it is the most powerful foe to contagion The International College of Physicians which lately met in Italy declared sunlight to be the most practical of all antiseptics A sun bath is the only remedy needed in some cases Like the action of the sun's rays—gentle, yet all powerful in quickening life —so does heat, in its proper administration, renew and vivify every function of the body, while at the same time it is so simple and available that none need suffer for the want of it

Whenever cleanliness with infants is neglected, disgusting, painful and obstinate cutaneous eruptions are likely to occur, or the foundation may be laid for derangement of function, or serious disease of some internal organ At no period of life is injury more liable to be produced, for at such time the vital resistance is at a low ebb, therefore repeated ablutions of the surface are most important Again, the skin and the mucous membrane of the digestive canal and of the respiratory organs in an infant, are the principal surfaces upon which morbid impressions are received, consequently they are those in which disease usually first shows itself and the exhalent function of the skin is extremely active, while calorification is feeble We are also to recollect that very frequently the cerebral symptoms which occur during infancy and childhood are altogether independent of disease of the brain or spinal marrow, being due solely to functional disturbance of the nervous centers, the result of reflex irritation At this period, when the functions of life are confined to nutrition and development it is important that we obtain the most favorable conditions for children, not alone to promote their normal growth and activity, but also to prevent any predisposition to particular forms of morbid action, as well as to give strength to overcome whatever prevailing disorder to which they may at times be exposed, whether it may be sympathetic irritation or the ordinary crises through which they usually pass

In the treatment of children, much more than with the adult, is the cheerful and what may be called the hypnotic influence to be exhibited Many times the dread of a disease is worse than the disease itself A cheerful and relying faith in the efficacy of the treatment to be administered is of the greatest value When the ablest physicians confess to a feeling of helplessness, it is time to give Nature an opportunity to recover herself, and instead of initiating measures that make a draft upon the vital powers, the part of wisdom is to remove, in the gentlest manner possible, all obstructions to the harmonious working of the functions, and encourage every effort the system is making to throw off morbid conditions

Most of us believe that the death of young children is not a necessary or inevitable result of any disease from which they are suffering, but rather that it is an accident that may often be foreseen by any one who will cultivate the habit of minute observation Many an infant life has been saved or sacrificed by the observance or the neglect of things which are too apt to be lost sight of as utterly beneath the dignity of science When we stop to consider how much benefit is to be derived from the simple use of heat, whether it be the internal use of hot water or the external use of hot compresses, or the primitive forms of a hot bath, it may reasonably be supposed that the scientific application of heat in the form of hot air, familiarly known as the Turkish bath, would be productive of a more uniform and certain result, and this has proved to be the case, to the surprise and delight of many an anxious parent

To illustrate the action of the Turkish bath in infantile diseases, the following cases are related

A male child, about six weeks old, was so nearly starved by the ignorant management of his nurse, that a complete case of marasmus was developed The most important part of the child's treatment, after inaugurating a new régime was a daily Turkish bath, supplemented by a gentle oil rubbing, which was continued for the succeeding twelve months He was taken into the hot room and placed on his back, on a bench covered with several thicknesses of blanket, there he would lie and play with his toes and sweat freely, then he would be taken to the shampooing room and gently rubbed with soap and warm water, then a delicate spray of warm water would wash him off, after which he would be wrapped in a sheet and blanket and invariably drop off to sleep All these processes gave him delight, and his improvement dated almost from the commencement of this coufse He is now over 21 years of age, and an active member of the National Guard

Another case was that of a boy 3½ years old, who was taken late at night with the harsh ringing cough of croup, together with labored breathing He was carried to the hot room of the Turkish bath At first the heat did not seem to give relief, on the contrary, the symptoms were apparently aggravated Hand rubbing of the arms and legs was then begun, which was pleasant to the child An expression of enjoyment, which was his first spoken word, encouraged perserverance Very soon perspiration began and then the unpleasant symptoms gradually vanished He was kept in the hot room about an hour, until his breathing was perfectly normal and the perspiration most abundant, when he was washed off and put back to bed He went directly to sleep, had no more coughing, nor was he heard from again until after daylight the next morning That was the last of the croup

Another case was that of a male child stricken with infantile paralysis, as a sequelæ from an attack of eruptive fever Both the lower limbs seemed deprived of the power of motion The entire treatment consisted of a daily Turkish bath, followed by oil rubbing, and the result was that in a few weeks his activity was regained and his restoration was complete Today he is a stalwart man, over six feet in height

The internal administration of hot water and the use of the Turkish bath in diarrhea and even dysentery, has proved most salutary, both with children and adults The use of hot water in the hands of Dr Elmer Lee, during the last cholera plague in Hamburg, was crowned with the best results The first stage of cholera is at once arrested by a Turkish bath Childred liable to colds and catarrhal processes in general are rendered less susceptible by the bath and it is also a valuable tonic to the vascular and nervous system, from the agreeable impression made on the peripheral nerves In all, fevers and inflammations the Turkish bath has proved a highly important therapeutic measure Its antipyretic effect is enhanced by the rapidity with which morbid material is eliminated from the body and thus the cause of the fever is removed This also includes such cases as those of erysipelas, measles, scarlet fever together with pneumonia and malaria

The Turkish bath has produced the most happy results in all cases of rheumatism in children whether from hereditary predisposition, which is well known to have a remarkable influence, or as a resultant of septic poisoning from other disease, such as scarlatina While rheumatism may be developed from a chill yet it would not appear except from a lowered tone of the system, produced by exhaustion from some excess Even excess of food may bring about such a result The most reasonable theory in regard to the method in which chill acts in producing rheumatism is that the chill disturbs the nervous system, and nutrition is disturbed thereby, and that the lactic acid, or some other acid of an irritant character, is retained and acts as a poison, which produces the phenomena of acute rheumatism While chronic rheumatism is rare in children, it is acknowledged by many of the best authorities that the means productive of the most good are hot baths

Rheumatism in children is often followed by a large class of ailments some of which result in veritable heart disease All of these may be avoided or aborted by an early resort to the use of the hot air baths Instead of being followed by an embarrassed and weakened heart, the purification of the blood renders the circulation perfect and the heart's action stronger

Many of the drugs advocated for the treatment of rheumatism have been found useless, and some harmful and even dangerous The fact that they are heart depressants of dangerous power negatives their use, especially with children The use of anodynes cannot be too strongly deprecated Their action is simply to benumb or deaden nerve action, whereas the patient, at such times more than ever, needs the full integrity of the entire nervous system Then it is that nature seems to loathe everything in the way of alimentation plainly indicating that the digestive apparatus is in no condition for the work of appropriation If the food is not relished or retained, it should be taken as a loud and natural protest against its being forced upon the patient To force food then is like adding insult to injury A copious use of hot water at such times gives wonderful relief in mitigating pain and aids materially in washing out poison from the system

Heat in the treatment of the diseases of infancy and childhood is an agent so universally applicable and so readily at hand, from the tenement to the villa that it deserves to be placed at the head of the physician's armamentarium Among the readiest means of applying heat, where the Turkish bath is not available is the hot compress, a simple device composed of four or more thicknesses of flannel wrung out of water as hot as can be borne This may be placed next the body, covered by a dry one of the same material and thickness, but made a little larger—the size to depend upon the object to be attained and the age of the patient to be operated upon One large enough to cover the entire front of the body, from the neck to the pubis, has been known to bring about a profound change in many a little sufferer who could not tell what was the matter with him and it has to all appearances saved the lives of many who were suffering from scarlet fever and other eruptive diseases Cold water will dissolve most substances, but its power is greatly increased by using it at the temperature of the body, and it will dissolve most waste material that may collect in the intestinal tract and remove it by the various methods which the body possesses for getting rid of waste products The waste substances, if not actually poisonous are at least mechanically injurious to the body They can either be got rid of or allowed to get fixed in the body, with resulting pains and headache A sufficient supply of boiled water, drunk at the body's temperature, will remove many a source of danger The internal use of hot water is invaluable to the infant suffering with colic, as well as to the adult suffering with sick headache Another convenient and ever-ready form of applying heat to suffering children is by means of a hot sitz-bath, for which a common washtub may be utilized, providing that the water is as near 110 degrees as may be Should the patient be too nervous to be introduced at that heat, it may be made several degrees cooler at first and gradually increased until the desired temperature is attained To utilize as much of the heat as possible, a sheet should be first placed over the child and tub, followed by one or two blankets, reserving the head for the free access of air and an occasional sip of cold water When the perspiration begins to show itself freely on the face, a successful result may be predicated It is well to finish by washing off with cool or cold water, in order to tone up the skin and prevent what is called "taking cold" afterward This device is capable of being utilized in an infinite variety of conditions, and when in intelligent hands has never been known to do harm, but on the contrary has brought about beneficial results in thousands of cases With the addition of a foot bath of the same temperature this same arrangement has produced wonderful results in children of much larger growth W H Wooster, of Australia, relates the following

> A little girl about 4 years of age was bitten on the foot by a poisonous black snake Symptoms of poisoning quickly followed, such as swelling, coldness and stiffness, the lips as thick as one's thumb, and the hollows on each side of the nose filled up level, and of a steel blue and sea green color The arms, lower limbs and body were becoming blotched with irregular raised parts The pulse became exceedingly feeble I hesitated, as no physician was nearer than eight miles, but concluded to try the "hydropathic sweating pack," to produce perspiration The child was placed in a tub of hot water, and blankets thrown over her, leaving the head out This was followed by a hot wet sheet and wrapping in two blankets, closely tucked in The heart action had almost ceased In fifteen minutes an improvement was apparent The dark rings around the eyes became less marked, the blue green tints less ghastly She became conscious In an hour she was taken out of the pack The swelling, blotches, stiffness, had disappeared, and the patient was washed off with cold water, rubbed, and next morning she was at the breakfast table

What is called a corn sweat has been utilized in some sections of the country This consists of a number of ears of freshly boiled green corn, with the husks on, wrapped in cloths and placed around the body of the invalid and then the patient covered with blankets The heat and steam from the hot corn soon brings on a profuse sweat and has relieved many cases of congestion To give a lime sweat, take a piece of quicklime half the size of the fist and rub it over a bed-sheet well dampened, but not so wet that water will drip from it, wrap this sheet in a dry one and fold it several doubles, place two bundles prepared in this way one on each side of the patient, in his bed, an abundant steam will come from the damp sheets and the lime, which will keep warm for over an hour, by that time the lime is reduced to a powder and can easily be removed from the sheets without injuring them In using this method it is not necessary to give the patient warm drinks, nor to overload the bed with blankets A balsam sweat can be given by placing a few branches of balsam in a pail of hot water and then placing in the water one or two hot flat irons—hot stones would answer the purpose—to create a plentiful supply of hot steam This is to be placed under a chair in which the patient is seated and covered with a sheet first, followed by two or more blankets to retain the heat and moisture Twenty minutes of this bath, though sometimes it has been used much longer, has proved most effectual to secure a thorough sweat, and the empyreumatic oil from the balsams contributes to the pleasantness if not the utility of the bath.

Where there is a bathtub in the house a very good sweat can be produced by running into the tub about two inches of water as hot as can be comfortably borne Let the patient sit in this and lave the hot water over his body, at the same time allowing hotter water to flow into the tub, continuing the process until a profuse perspiration is established, then pull out the plug to allow the hot water to run off and turn on the cold water to wash off the body and secure a good reaction An alcohol sweat has been successfully used by many mothers It consists of an alcohol lamp placed under a pan of warm water, with the child seated on a cane-bottomed chair, and then all but the head covered with blankets This is an effectual manner of breaking up a cold A sulphur bath consists of a box arrangement wherein the patient can sit with the head out The attendant burns a sufficient amount of sulphur in the lower and rear part of this box This produces a profuse sweat in a short time, and has been used with great success in cases of rheumatism It is a sure cure for the itch The makers of portable Turkish baths are advertising very freely in the papers, arrangements costing from five dollars up that are capable of doing very effective work and will be found useful in many places

All the aforementioned are but rude and primitive efforts to accomplish what is so easily, promptly, and thoroughly brought about by that most complete of all baths—the Turkish bath The great beauty and utility of the use of this bath in the treatment of children's diseases consists in the ability to quickly abort what would otherwise prove a serious disturbance Many such difficulties begin with what is called a cold, which is otherwise a condition of repletion The Turkish bath, by its eliminating power, breaks up this condition and quickly relieves the pressure Resort to the bath in such cases constantly tends to the better growth and development of the child We know that every period of sickness through which a child passes, interferes with its growth and development, and sometimes leaves deformities in its track For this reason the Turkish bath is to be considered one of the best friends of childhood The pleasure with which its processes are enjoyed is a most marked contrast to that of the ordinary treatment The delightful feeling of being more thoroughly clean than is possible under any other process is most satisfactory and enduring It is also invaluable in all infectious diseases, as heat destroys the germs, and renders the soil barren, thus producing unfavorable conditions for any disease to progress

The readiness with which the Turkish bath can be accommodated to the necessities of any case, renders it most admirably adapted for such work It promotes the natural action of all the functions of the body, bringing to every organ its equal and appropriate nutriment It thus aids the development of all the functions which may be deficient in activity, and secures a harmonious working of the forces through which physical life is perfected and enjoyed Thereby we have a better opportunity to attain the full measure of social, intellectual and spiritual life Those who desire for their children the greatest physical good—and what parent does not?—should provide for them the privilege of at least one Turkish bath every week No one thing would tend more to promote their growth and development All who would hasten on the good time, and honor themselves, can scarce find a better field of work than that of popularizing these baths, for unless all signs fail, they will yet prove one of the greatest blessings to mankind In order that their complete benefits may be realized, there should be large public Turkish baths established by the people, that would be readily available to every child in the land, as well as to the parents Every city or town securing for itself this grand privilege, would find itself many times remunerated in lessened taxes for the sustenance of its paupers and criminal classes, better health and a longer term of life for its children, as well as in the general refinement of its people

81 Columbia Heights

CONTROL OF DIPHTHERIA

Presented to the Section on State Medicine at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo June 7-10 1898

BY W K JAQUES, M D
CHICAGO

The knowledge which careful investigation has given the medical world has placed within our hands the means of controlling diphtheria—the most fatal disease of childhood—as it has never been controlled before Just in proportion as this knowledge is made available when needed, will be the success with which the disease may be held in check In the past, diphtheria has been in the hands of the family physician, the health official taking little or no part in the treatment, except to warn the public by a placard and insist upon isolation But our present knowledge of the disease demands a greater participation than heretofore by municipal as well as State officials

Diphtheria is influenced by every factor that affects the physiologic resistance of the human system History shows that in every large city, in periods varying from seven to ten years, the disease becomes epidemic, probably due to racial and climatic conditions which cause an increased predisposition, as well as favorable conditions for the virulence and spread of germs During the summer, or the seasons of least susceptibility, the Klebs-Lœffler bacilli are preserved in dark tenement and basement houses, and other favorable places where sunlight can not destroy them During seasons of increased predisposition, they spread from one susceptible individual to another The Klebs-Lœffler bacilli, inoculated on the mucous membrane, grow with a rapidity proportionate to the susceptibility of the individual The bacilli, in their growth, produce a ptomain, very destructive in its nature, which causes necrosis at the point of invasion, and a general cell-destruction, corresponding to the degree of virulence and cell-resistance

The symptoms caused by the invasion of the Klebs-Lœffler bacillus are simulated by several other germs, with which it is often associated When this is the case, the symptoms of the Klebs-Lœffler bacillus may be so obscured by those of the associate germs, that its presence can not be discovered in the early stages except by the microscope Mucus taken from the site of the invasion contains the germs exciting the inflammation, and they may be clearly identified through the microscope, after a few hours' cultivation, before the production of membrane or other clinical evidence of diphtheria

Antitoxin is a specific in the early stages of the invasion of the Klebs-Lœffler bacilli, and the mortality increases in direct ratio as the diagnosis and administration of the serum are delayed Then the first necessity in the control of diphtheria is an early bacteriologic diagnosis, the next, the proper use of antitoxin Here begins the responsibility of the family physician, and upon his conduct rests the subsequent results He must first appreciate the danger that lurks in a simple sore throat, and realize that bacteriologic as well as clinical evidence is necessary for an accurate diagnosis Laboratory work of any extended nature is seldom possible for the general practitioner, because of the necessary time and equipment, hence this work should be supplied by those whose interests are most involved, and who are best prepared to do it These are the officials of the health department, who are the guardians of the public welfare, and whose duty it is to help suppress anything which threatens the health of the body politic Any contagious disease which manifests itself in the form of an epidemic is directly within the jurisdiction of municipal health officers, not for individual treatment, unless it is clearly beyond the scope of the physician, but for the provision of such measures as will enable the physician to best control the disease

A remedy is only a remedy when applied to the particular disease it is adapted to cure Antitoxin is a by-product of the Klebs Lœffler bacilli, and is just what its name implies—a remedy against or opposed to the toxin produced by these bacilli Having been made possible by the revelations of the microscope, it should be applied as scientifically as it was discovered Following the first reluctance to use antitoxin at all, has come the tendency among some physicians to administer it indiscriminately in any and all cases of sore throat This is not as serious in its consequences as the total omission of the remedy, for one is likely, by chance, to cure a case of real diphtheria, but it is unscientific and renders unreliable the record of its results Given a remedy and its specific action, based upon a certain condition, and the means of discovering that condition, and the physician of today is master of a disease which for centuries has been an unconquered foe of the race

It may be questioned as to whether or not municipal or State authorities have the right to demand certain treatment of a disease from physicians whom they have licensed to practice, after having been convinced of their ability to do so But the majority of physicians now practicing received their medical training before the existence of much of the knowledge upon which our present experience is based It is not pleasant to admit that some doctors who boast an experience of a quarter of a century, or even a decade, are prone to prefer this experience to "new-fangled" theories Nothing makes a physician feel so helpless as a consultation with an old physician, who declines antitoxin with the remark that he has used iron and sulphur and similar remedies, for thirty years, and never lost but one or two cases of diphtheria There is no argument which will con [illegible] such a man that some of [illegible] not h [illegible] diphtheria He knows [illegible] th sees it but seldom, and the expert who treats it all the time dares make no such assertion without the confirmation of his microscope. It is this class of physicians who keep up the death-rate in diphtheria, and who make it absolutely necessary that health officers shall demand the use of such methods as have been demonstrated as most efficient in protecting the public and the individual. If the foregoing were not sufficient reason for action on the part of health authorities, there would still remain the fact that diphtheria is a disease of the poor people, and as such, requires protection and aid.

In the individual who is protected against diphtheria, there is a constant amount of antitoxin present. It is one of the products of cell life, under favorable physiologic environment, and is carried to all parts of the body. When the mucous membrane becomes congested, the functional activity of the cells is arrested and their resistance to the invasion of hostile germs is weakened. The toxin of the invaders acts as a stimulant to the other cells throughout the body causing an increase in the production of antitoxin. This is carried to the site of the invasion by the blood and so fortifies the surrounding tissues that the invasion is stopped. With this explanation one can understand how the Klebs Lœffler bacilli may be present in the mucus of the mouth for weeks without producing an invasion, but when vital resistance is lowered by cold, hunger, loss of sleep, anxiety, menstrual period, or other debilitating factors, the disease manifests itself.

A high degree of physiologic resistance is the surest safeguard against all disease. This condition is only possible with hygienic surroundings, hence it is obviously the first step toward the suppression of disease, particularly of a contagious nature, to demand of the filthy man that he shall keep himself and his surroundings clean. It is a very fine line which separates the duties of the health official from those of the family physician and the highest degree of success can only be attained by their harmonious cooperation. Health officials are dependent upon doctors for much statistic information involving time and labor for which they are not compensated. Not only in return for this but as a means of guarding the welfare of the public, the authorities should provide such facilities for physicians as will render the treatment of contagious diseases as efficacious as possible.

The expense of a laboratory to a community is small compared with its benefits, and when properly equipped, with an experienced bacteriologist, will prove a very important factor in the hygienic government of a city or town. The culture medium should be properly prepared or the examinations will be confusing and misleading. The change in the forms of the Klebs Lœffler bacillus and the modifications in cultural developments, owing to associate germs make the identification of the bacillus sometimes difficult. Diphtheria work in all its phases is greatly facilitated by experience and all the cultures of a community are no more than sufficient to give a bacteriologist a knowledge of the varying forms.

From a legal standpoint, it may be a serious matter to placard a house or place of business, and it should not be done unless the department fortifies itself with evidence of the contagious nature of the disease. This it can best do by making its own cultures, or by doing the work for physicians.

Antitoxin is a product which should be subjected as little as possible to the vicissitudes of commercial exchange. It deteriorates with age, and the irregular demand often leaves it on the druggist's shelf for months. When it is needed, it is usually in an emergency, when the life of a patient is depending upon the quality of the first dose of serum. Owing to the large profits accruing from the sale of antitoxin, irresponsible firms have been tempted to place an unreliable grade of the serum on the market. Foreign governments have taken measures to protect their cities by restricting the manufacture of the article. If State officials are not able to do this, they are at least in a position to investigate and satisfy themselves of the best grades on the market to be supplied. No greater service can health officials perform than to arrange for a fresh supply of a reliable grade of antitoxin, throwing careful restrictions about the distribution of that intended for purposes of charity. Delayed treatment means increased infection, and the control of the disease in the tenement districts means fewer funerals on the boulevards.

These facts furnish the basis for the plans now used in cities to reduce the death-rate in diphtheria. The predisposition to this disease is as great in Chicago as in any city of its size in the world. Its geographical situation makes it the commercial center of the United States, while the immense system of railways radiating from and through it make it a rendezvous for all classes of foreigners, as well as an incalculable means for the distribution of contagion. Added to this are its crowded districts and its raw lake winds, which have together made the city a shining mark for diphtheria. By furnishing convenient culture media microscopic examinations, the best obtainable grade of antitoxin, and the services of expert physicians as inspectors and operators, Chicago now points with pride to a death rate which has been reduced from 37.5 to 6.7 per cent.

In the rural districts, where these means of controlling diphtheria do not exist, the mortality is almost as high as ever. If such a reduction can be accomplished in a large city, under circumstances most favorable to the existence of diphtheria, a similar plan ought to be even more effective in country towns where hygienic conditions are most favorable to health. The methods used in Chicago can be applied and carried out, with some modifications, by the health department of any city or town. Where such an office does not exist in country places, the work can be carried on by direction of State officials with very little expense. The equipment for diphtheria work would represent but a small outlay compared to the advantages to be reaped from its protection. There is no disease of childhood which finds an unprepared country doctor quite as helpless as the malignant form of diphtheria. Without bacteriologic facilities, it usually takes several deaths to convince a physician what he has to deal with and provide for. That part of the control of diphtheria to be performed by health officials is largely by direction of effort. Previous preparation is very important and should occupy the summer months, when a physician's work is light, and he can devote time to the acquirement of knowledge concerning the morphology of the Klebs Lœffler bacillus, and the best method of doing the work.

The fear of cholera or an epidemic of yellow fever has caused State officials to spend thousands of dollars in questionable methods for the protection of the people, but a disease which is absolutely preventable has received little or no attention from these officials The best authorities on the subject believe that if children were given the highest scientific protection, there need not be a single death from Klebs-Lœffler diphtheria We have the knowledge and the remedy, all we lack are the individuals in official life to apply them for the protection of the public

4316 Greenwood Ave

ALCOHOL ON TISSUE AND CELL GROWTH

WHAT RECENT INVESTIGATIONS SHOW OF ITS DESTRUCTIVE ACTION

Presented to the Section on State Medicine at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo June 7 10 1898

BY T D CROTHERS, M D
SUPERINTENDENT OF WALNUT LODGE HOSPITAL
HARTFORD CONN

I can only hope to point out some general facts which have been confirmed by repeated observations of many persons Within five years an increasing interest in alcohol has begun in the laboratories, and the question of how alcohol acts on the body is recognized as the great coming theme The theories of the past are called in question, and a large number of scientific men are trying to solve the problems of alcohol, only to find how complex and difficult they are Our familiarity with the effects of alcohol are far beyond all knowledge of its chemistry and pathology We interpret the symptoms and theorize from them without any knowledge of the actual conditions present A change has come and the question is " Why should alcohol cause exhilaration or stupor, delirium and delusion? Why should profound changes follow its use with intense degeneration and destruction of both body and mind? These questions are to be answered in the future by exact chemic and laboratory research confirmed by clinical observations

The new physiology of modern research shows that the body is an association of cells Each cell is a physiologic unit, and consists of a large quantity of minute structural elements which have the form of granules These are not alike, but assume a number of different forms, differing in regard to irritability also with regard to external stimuli Under specific stimuli some of them grow and divide, while others remain undisturbed It is from a predominance of one or other of these sets of cells that the specific character of a cell is determined The sum total of these granular energies makes the life of the cell These are the ultimate organic units of life In all these cells there are specific functions, capable of acting along certain lines All cells have functions of assimilation, growth and sensibility All have stimulus and force, both chemic and physical

The influence of surroundings is the stimulus which calls out certain functions and activities The perfection of life is the perfect balance of these cells in function and growth Any substance which interferes with their specific action, changing their direction and movement, which disturbs their assimilation growth and sensibility or which breaks up their stimulus force and chemic and physical relations is serious and of vital influence to the integrity of the body Cells may be injured poisoned impoverished, and diverted from healthy growth, and be repaired When the injury passes a certain limit death takes place and no recovery follows With these physiologic facts in mind, we are able to understand how poisons may affect the cells and tissues

One of the prominent effects from the ingestion of alcohol in the stomach is the increased action of the heart and rapidity of the blood-current Dr Berkley has shown that the circulatory apparatus is damaged both by the presence of a poisonous irritant circulating in the blood current, and the deteriorating action of alcohol on the leucocytes These bodies are palsied and swept by the blood stream into the cerebral circulation, and from the atonic condition of the heart muscle and the muscular walls of the arterial system not being able to force them through the capillaries equally with the red-blood corpuscles, by reason of their larger size, they accumulate in the finer capillaries which surround the cells, plugging them up partially with backward pressure on the arteries These retain the irritant poison, increase the danger to the walls of the capillaries and add new sources of irritation

The leucocytes degenerate and disintegrate, and ruptures of the walls of the finer capillaries are frequent The practical destruction of the leucocytes and driving them in masses in the meshes of the brain, together with the alcohol irritant has two specific influences on the cell one on its nutrition and the other on its dynamic force The nerve cell, as we now understand, is composed of numerous dentrites or filaments, which project out from the cell body, in contiguity but not in contact, with filaments of other cells and nerves These are altered, retracted and shrunken from the influence of alcohol

Dr Berkley, in describing the lessons from the action from alcohol, showing the shrunken cells, says " One striking fact of the degenerative process is that a number of the cerebral and cerebellar cells remain apparently intact unless the use of alcohol is excessive About every third or fourth cell shows pronounced alterations This part does not militate against the conception of the degeneration as a pathologic entity from the standpoint of numerous forms of dementics and chronic alcoholic psychoses for the nerve elements of the cerebrum are intricately connected one with the other by means of their conductor endings and the knob ended gemmulæ, between which the dynamic forces originating in the cell body, pass from one cell to the other over the almost imperceptible space that is present between the two and thus the death of a single cell may destroy the normal relations between dozens of other cells, and in this way induce an inco ordination of thought and action while the majority of cellular elements retain their histologic normal characteristics "

Dr Andriesen found that alcohol acted on the cell body, causing changes of the granules, eroding them, as it were, breaking up the normal distribution, and causing them to gather in masses like ruins In some cases changes would start from several points in the cell body and be followed with local excavations and breaking down into little débris The external changes of the form would be shrunken and depressed like a battered hat The dentrites and fibrils would be shrunken and wrinkled, with small irregular swellings These changes begin in the nutrition of the cell and its dynamic activity Alcohol breaks up nutrition and its power of generating force or regularity, when generated In fatigue, the form of the nerve cell is changed, and its filaments retracted, so from alcohol the same condition in a pronounced degree follows Dr Andriesen shows that the functional activity of the nerve cell is suddenly increased by the action of alcohol, and its nutrition equally depressed, that both the dynamic and nutritive powers are degraded, broken up and paralyzed The sudden absorption of the water of the cell and the intrusion of the alcohol toxins, cutting off nutrition and diverting the dynamic force, are depressant and degenerative The result is most clearly seen in the symptoms which follow, which are so uniform as to be almost the same in all cases These may be stated thus diminished power of resolution, of concentration of muscular and mental energy, lowering of the moral and ethical sense, failure to get rest from sleep, nutritive derangements, and finally mental disturbances with emotional changes, delusions, sensorial failures, and so on into insanities, at first slight, then profound and grave

The fact is well attested that alcohol even in small quantities affects protoplasm, diminishing the vital phenomena therein, this, in addition to the palsy and cessation of movement of the leucocytes in the blood, taking away the resisting power to disease, and imperfect oxygenation with consequent retention of waste material, are groups of facts well established Prout, Smith, Harley and others, proved conclusively that alcohol lessens the absorption of oxygen by the blood corpuscles and the exhalation of carbon dioxid Alcohol has a peculiar affinity for, at least manifests itself in changes of, the minute nerve terminations of the periphery First, there seems to be swelling, infiltration, with leucocytes and fatty granules of débris, then thickening and inflammation, followed by degeneration and wasting of the nerve and muscle fibers In optic neuritis, the interstitial tissue is first affected Dr Wilkes shows that alcohol affects the tubular and vesicular neurins by dissolving the phosphorus and protagen, and shrinking and hardening the nerve fibers These conditions are alcoholic neuritis, and the impression prevails that it is largely due to retained products of metabolism and atheromatous degeneration of the walls of the vessels The continued use of alcohol is followed by profound degeneration of the cells and nerve trunks The brain as a whole is shrunken and contracted, and serous effusions fill the spaces The cells are also shrunken and wasted, and the nerve fibers and cells are atrophied and mixed up with connective tissue, which grows enormously

The stomach is eroded, and contains patches of inflammation with increase of connective tissue and atrophy of the gland-cells The liver also shows inflammation of the parenchyma and proliferation of cells and leucocytes blocking up the spaces The kidneys show the same cumulations of the products of metabolism Dr Glaser proves that alcohol in moderate quantities irritates the kidneys and the augmented leucocytes, cylinders and crystals, being due to the increased metabolism of the tissues or to the alteration by alcohol of the relations of the solubility of the urine salts The heart becomes fatty and its power enfeebled, the muscular fibers degenerate and lose their uniformity, becoming swollen and atrophied, the walls of the blood-vessels are thickened or thinned, become atheromatous and lose their resiliency, the lungs suffer atrophy and the tissue degenerates, local inflammation and irritation are present In all cases, the use of alcohol in any form is followed by a diminution of the white-blood corpuscles or leucocytes and a diminished resistance to every condition of strain, drain, fatigue, and every form of environment which taxes the organs to adjust itself to the new conditions Alcohol given to animals in small doses, and under various conditions has the same effect The study of the cells and nerve fibers shows identical changes, confirming the facts mentioned Dr Van Gieson of the New York State Pathological Institute has pointed out the action of alcohol on the cells as erosive, breaking up the normal relation of the granular or protoplasmic matter, and corrugating the fibula dentrites He concludes that this is dynamic and nutritive, and is cell disturbance and cell-starvation The function is changed and its nourishment is lessened

A great variety of facts have been accumulated relating to the immediate action of alcohol on the body The following may be stated as the most reliable, and generally accepted as proven The rapidity of the absorption of alcohol is shown to be such that within a minute and a half from the time alcohol is taken in the stomach it can be detected in the blood by chemic analysis This rapid absorption is followed by a sense of warmth, which is not clearly explained, but in all cases it is due to both vasomotor and vasoconstrictor paralysis, also to the rapid absorption of water from every tissue it comes in contact with The capillaries are dilated, and the heart action is increased but lessened in power The blood is changed, the white corpuscles being lessened both in number and rapidity Careful analyses show a marked diminution of carbon dioxid after alcohol is used The most pronounced effect from the use of alcohol is sensorial palsy. Careful measurements of the senses before and after the use of alcohol show diminution of the acuteness and the activity of the senses This goes on to full paralysis The mental operations are slowed and diminished and can be measured exactly Memory, reason, perception, and all the higher qualities are enfeebled according to the amount of alcohol used In some cases one or two drams of alcohol will show marked effects, in others a large amount is required to show this by instruments of precision But in all cases a degree of paralysis is present which may center on some part of the body more than the other The conclusion which is sustained by all these and many other observations is that alcohol is a poison and a paralyzant in its effects on the body This latter action is an explanation of its peculiar fascination to all persons in all circles of society It is an anesthetic, stopping pain, discomfort, and psychic unrest, and creating a false impression by covering up the cries of distress and the protests of nature The defects of growth, nutrition, disease, and every stage of living, find a seductive narcotic in alcohol Later, the degeneration becomes fixed and settled The demand for alcohol is often a symptom of some central defect in the brain and nervous system — the same want or desire for relief, as after the body is saturated with poison, only varying in degree The ethers of alcohol are the most wonderful sleep and pain-numbing forces known This same anesthesia is a property of all alcohols, with the addition of other pronounced effects It is a startling fact that all the theories current of the food, tonic, stimulant and medicinal powers of alcohol have no support from modern research On the contrary, it is found to be poison of equal virulence to syphilis and other poisons Recently alcoholic toxins are beginning to be studied, and the new facts appearing in this field promise some startling discoveries A grouping of some of these facts may be stated as follows

1 Alcohol acts primarily on the nerve-cells, changing their granular matter, breaking up their nutrition and changing their dynamic force

2 This action is followed by contraction of the dentrites, swelling and atrophy of these fibers, also shrinking of cell walls, as in fatigue, and coalescing and disappearance of the granular matter of protoplasm

3 The special injury from alcohol seems to be on protoplasm and terminal fibers of nerve trunks The irritation and inflammation of the nerve walls and fibers ending in sclerosis are common

4 Alcohol acts on the leucocytes of the blood, checking their activity, and destroying their function These are driven in masses by the increasing rapidity of the heart, and become blocked up in the capillaries, forming centers of obstruction and injury

5 The use of alcohol is found to be followed by diminution of the carbon dioxid and all waste elimination, with a marked sensorial palsy of the senses, and a slowing up of all the mental operations These are the results of measurements with instruments of precision, and cannot be mistaken

6 The action of alcohol in the light of modern research differs widely from the theories and current beliefs of the day

---

HEREDITY AS A CAUSATIVE FACTOR OF INEBRIETY

Presented to the Section on State Medicine at the Forty ninth Annual Meeting of the American Medical Association, held at Denver, Colo , June 7-10, 1898

BY F C MYERS, M D

KALAMAZOO

That heredity is a common cause of alcoholism, and that alcoholism is a disease, is becoming apparent to many medical men of the present day

In that good old book, the Bible, we are told that "The sins of the parents are visited upon the children to the third and fourth generations" That has been proven to be a fact, in the evil effects produced upon the system by the use of alcohol, the person whose brain and nervous system have been injured, and whose moral and will powers have been weakened, and whose stomach, liver, and other organs have become deranged by the use of alcohol, will transmit some of these derangements to his offspring

The modern study of the therapeutics of alcohol has proven, without a doubt, that it is not a stimulant or tonic, but an anesthetic and a narcotic, and that it should be classed, in our works on therapeutics, as one or the other of these, and it has also been proven that it is a remedy of but little therapeutic value and one that could be dispensed with, even for medicinal purposes, with universal benefit to mankind It is not my purpose in this paper to discuss the therapeutics of alcohol, but to prove, if possible, that the influences produced by alcohol are handed down from generation to generation

The principles of heredity must have been known in ancient times, and undoubtedly gave rise to family names among the Romans, and in the present age the Bourbon nose and the Hapsburg upper lip are well-known family characteristics while some families are characterized for such virtues as business integrity, truthfulness, temperance and frugality, others are as equally marked for dishonesty, mendacity and drunkenness A marked physiognomy and proneness for commercial pursuits have been Hebrew characteristics from time immemorial The transmissibility of an alcoholic inheritance has been very generally admitted by many writers, among whom are Aristotle, Darwin, Rush, Morel, Grenier, Carpenter, Richardson-Thompson and Forel The number of cases in which an ancestral history of alcoholism has been traced is probably much below the actual amount, as it is difficult to get relatives to admit the existence of an alcoholic taint It has been found by studying the subject, that the proportion of hereditary cases has increased 5 per cent over the acquired during the past twelve or fifteen years Norman Kerr says "In over 3000 cases of chronic alcoholism I have found fully one half with an inebriate ancestry," and about the same proportion has been the experience of others who have studied the subject in America and Europe Kerr again says "I have observed children born more than a year after the father had been attacked by a brain disease or inebriety, exhibit from their earliest years propensity for intoxication, and in more than one family the children could, only by constant supervision, be kept from strong drink as soon as they began to crawl" And he says also "Nearly two-thirds of the cases of inherited alcoholism are due to the alcoholism of one or both parents" I believe it has been fully proven that the child of an inebriate, born after the lesion has been established, inherits some nervous diathesis, and that the only security is by life-long abstinence on the part of the child Beran Lewis attributed 64 per cent of cases of chronic alcoholism to parental inebriety, some form of transmittal neurosis, or insanity Piper puts the proportion of hereditary to acquired cases as 2 to 1

In the examination of two groups of ten families each, in a children's hospital of London, one group of 57 was affected more or less by alcohol, the other of 61 was unaffected, or slightly so Of the first group 20 had inebriate fathers, the mothers and grandparents being moderate drinkers, only 45 per cent of these had healthy constitutions, 31 had inebriate fathers and grandfathers, but temperate mothers and grandmothers, only 2 of these, or a little over 6 per cent, were healthy Of the 61 children belonging to the temperate families 82 per cent were in good health

The customary drinking of light wines and champagne at banquets and public dinners has been thought by many worthy people in the past, to be perfectly harmless, but as more light is thrown upon the subject of heredity and the therapeutic action of alcohol, that custom will gradually be abandoned, in fact, it is becoming less customary at the present time There has never been a time in America when every indication pointed so strongly to a decrease in intemperance as at present There has never been so little drinking as at present, and never such a strong tendency toward moderation in quarters where alcoholic indulgence is general The most careful figures bear out this statement, That hereditary craving for strong drink can be transmitted by parents who have not that craving but who drink very moderately, has been proven Forel says (*Medical Pioneer* of December, 1893) "Hereditary craving for alcohol may proceed from parents neither of whom possessed this craving, but were drinkers only by custom or sociability."

Not being connected with any inebriate institution my experience is limited to that of a general practitioner, but a typic case came under my observation a few years ago. A man, born and educated in Edinburgh, Scotland, whose parents were wealthy people, but who had been in the habit of using light alcoholic drinks in the form of wines—as many Scotch families do—came to this country, entered business, and was a very bright business man and honest in all his ways, but from every month to three months—never going over three months—he would leave everything and enter upon a drunken spree. It made no difference how much was involved in business interests. As he was under my observation for two or three years, I know that it was against his will and purpose and that he made every effort to overcome the hereditary power that was controlling him. It was usually from two to three weeks before he was ready for business again. He was a person of much moral purpose and great business integrity when himself, and has told me many times that he always had a periodic craving for alcohol ever since he could remember; he had one daughter born to him who is a nervous uncontrollable child.

Another case of a bright young lady was under my observation for a year, who, every few weeks, from her earliest memory, had such a craving for alcohol that it seemed impossible to resist it. After taking a few swallows of diluted whisky she was satisfied, the craving for it ceased and her nerves became quiet. As she was a person who never had been in the habit of drinking, only in this way, the craving was undoubtedly from a hereditary source. Many other cases might be referred to, but as there are those here who have made that subject a special study and who would naturally see many more cases of the kind than a general practitioner, that part of the subject will be left for their consideration.

In conclusion I would ask: If one of the principal causes of inebriety is heredity, how is this form of inebriety to be cured and our future generations saved? I know of but one way, and that is to stop the drinking habit at once. As it has been proven that 1, alcohol is not a food; 2, it does not promote digestion; 3, it does cause gastric disturbances; 4, it does not increase muscular strength; 5, it is not a tonic or stimulant, therefore I believe medical men ought to do all in their power to educate the rising generation in regard to these facts, and that alcohol should be classed in its proper place—with anesthetics or narcotics—and everything possible done to prevent its universal use as a common beverage in social and political life. By so doing inebriety may be practically wiped out of existence in one generation, and a blot removed from this fair earth of ours, which would be an untold blessing to thousands of families.

Rest in Chorea.—Van Bibrer reports twenty five children cured of chorea during the last year by keeping them in bed, the muscles arranged in the manner most conducive to repose, with conscientious massage three times a day, the diet nutritious and abundant. Medicines can be given if desired, as the patient is in the best condition to take them. Rarely was he obliged to keep the child in bed over a month.—*Journ. de Méd. de Paris*, October 20.

ISOLATION IN A GREAT CITY, HOW BEST ACCOMPLISHED

Presented to the Section on State Medicine, at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo., June 7-10, 1898.

BY SAMUEL P. DUFFIELD, M.D.
EX CITY HEALTH OFFICER
DETROIT, MICH.

Subsequent to the fourteenth century, when the plague passed that gate of quarantine between infected districts and the civilized nations, *the world began to think*. Physicians and chemists turned their attention to *causes* of disease and from the advanced knowledge obtained boards of health were developed. It was found that pecuniary loss from sickness and pestilence was so great that steps were taken to guard against the spread of contagious disease, and the laws of the land in regard to public health have gradually and surely developed into a system which has been successful in warding off these diseases and preventing serious epidemics. This was the first tree, tender and young, which, planted in the gloom and despair of a plague-stricken people, bears fruit today, "for the healing of the nations."

Our health laws and ordinances, pestilences and plagues have been great reformers. Old Pharaoh was no believer in bacteriology. He was like the third-class criminal lawyers, who like a *Bombastes furioso* in their pseudo eloquent appeals "about the inalienable rights of the American citizen" to a jury that do not know what a bacillus or a bacterium is, and who can not see the use of such things in everyday life, because they are "practical men" and believe in "common sense" and see no reason why they should adopt every fad the doctors choose to "force upon the public." For his neglect of studying the laws of nature, Pharaoh's kingdom was overrun with pestilences of various kinds, and finally preserved for future reference in brine, to which, metaphorically, we would also consign the ignorant third-rate criminal lawyer who sometimes manages to be appointed as health commissioner, claiming he is a practical man.

Contending with such difficulties as have been foreshadowed, the local health officer finds it difficult to even enforce the municipal ordinances, as the sympathy of the jury is usually in favor of the "poor man, who did not know any better" and who has, in their opinion, "suffered enough already," even if he has brought it upon himself by gross carelessness. But in spite of the above obstacles there has been an advance along the line, by local health officers. Since the introduction of antitoxin we have reduced the mortality of diphtheria, as the following statements will show. Diphtheria is most prevalent in cities. During the last twenty five years it has become epidemic in most of the larger cities in the Northern and Western States from the Atlantic to the Pacific coast, following the lines of travel. The permanent establishment of diphtheria in the centers of trade, and the fact that many grown people have this disease in so mild a form that they are not aware of it, and innocently mingle with others in places of amusement, inevitably tend to disseminate this disease throughout the country.

In Europe it has boldly established itself, even in centers of medical education. In Paris, London, and Vienna it has been of late the subject of much discussion and investigation. In Europe and America the literature of diphtheria has greatly increased during the past ten years, by reports of cases, histories of epidemics and statistics of results of different modes of treatment

The fact that diphtheria virus can be carried in clothing long distances without losing its virulence is now generally admitted by those who have made many and careful observations Trousseau has said that diphtheria does not spare any age, but it is most common between the ages of two and six years Observations which I have made during the years 1895–1896, and cases and deaths which I give in tabular form below, show that up to the age of 9 years in the year 1896, 90 per cent died, while from 10 years on to 74, there were only 10 per cent of the total deaths of diphtheria According to M Barthez, in St Eugenie Hospital, during twenty years, the ages of diphtheria patients were as follows

AGE	CASES
Under one year	81
1 to 2 years	314
2 to 3 years	319
3 to 4 years	292
4 to 5 years	200
5 to 6 years	103
6 to 7 years	59
7 to 8 years	36
8 to 9 years	59
9 to 15 years	82
15 to 17 years	2
Total	1547

The total number of cases from under 1 year to 17 years, inclusive, is 1547 From under 1 year to 8 years we have 1404 cases, and from 8 to 17 years, inclusive, there were 143 cases Hence,

$$1547 \quad 1404 \quad 100 \quad x = \frac{140400}{1547} = 90\ 7$$

90 7 per cent of the cases occurred from under 1 year to 8 years, while

$$1547 \quad 143 \quad 100 \quad x = \frac{14300}{1547} = 9\ 24$$

Only 9 24 per cent occurred from the eighth year upward to the seventeenth year, inclusive

Now take the death rate as it appears in the city of Detroit and you will find that it follows closely the same rates

MARCH, 1896, TO FEBRUARY 28, 1897

AGE	DEATHS
Under 1 year	11
1 year	28
2 years	54
3 years	29
4 years	35
5 years	31
6 years	22
7 years	12
8 years	12
From under 1 to 8 years	234

$$260 \quad 234 \quad 100 \quad x = \frac{23400}{260} = 90 \text{ per cent}$$

AGE	DEATHS
9 years	4
10 years	4
11 years	4
12 years	2
13 years	1
14 years	2
15 years	1
16 years	1
24 years	1
25 years	1
26 years	1
30 years	1
37 years	1
43 years	1
74 years	1
From 9 to 74 years	26

$$260 \quad 26 \quad 100 \quad x = \frac{2600}{260} = 10 \text{ per cent}$$

Total deaths from diphtheria 260

It will be seen that out of 260 deaths which occurred from March 1 1896, to Feb 28, 1897, 90 per cent of the deaths properly chargeable to diphtheria were below 9 years of age while from 9 years upward to 74 years the rate was only 10 per cent You will perceive what havoc the contagion makes in the earlier years of childhood The figures given above teach a peculiarly sad lesson They show how carefully children of ages ranging from 1 year up to 9 years should be guarded How sedulously gatherings of children, when coming from homes whose surroundings are not known, should be avoided It would be well for ladies who send their children to kindergartens to weigh well these figures

The home of every pupil of the kindergarten should be visited by a ladies' committee, composed of mothers that they may know positively what influences may be at work from the individual scholar The teacher of these tender little ones should be subjected to a scrutiny far more searching than the teacher of the higher grades She should, in her mode of life and circle of acquaintance, be above all suspicion of coming from or visiting any house in which there is a case of sore throat, or any child suffering from a rash or in fact, any sick child Such a percentage of death should warn all mothers who can afford to do so, to teach their children at the mother's knee I am aware from personal observation that there are many poor laboring women who have no time to devote to their children It is unfortunate that this is so as the mortality rate plainly indicates that the danger to children of 5 and 6 years is very great This danger is not confined alone to diphtheria, but is apparent also in cases of scarlet fever You will notice from the figures on that disease, which I give below, how nearly the same percentage runs through the years from 1 to 8

AGE	DEATHS
Under 1 year	1
1 year	2
2 years	9
3 "	2
4 "	6
5 "	1
6 "	3
7 "	2
8 "	1
From under 1 to 8 inclusive	30

$$33 \quad 30 \quad 100 \quad x = \frac{3000}{33} = 90\ 9 \text{ per cent}$$

That is, from 1 year to 8 years, inclusive the death rate is 90 9 per cent

AGE	DEATHS
12 years	2
13 "	1
9 years upward	3

$$33 \quad 3 \quad 100 \quad x = \frac{300}{33} = 9\ 09 \text{ per cent}$$

From 9 years to 13 years and upward only 9 09 per cent of the total death rate for scarlet fever died

During the year 1896 ant [illegible] used [illegible] edy, and through observa [illegible] lat cases and deaths in the ci [illegible] rate of 12 58 per cent where antitoxin was used May 1, 1896, the Board of Health of the city of Detroit began furnishing antitoxin free to those patients too poor to pay for it This included poor patients under charge of the city physician, poor patients at Harper Hospital, sent there by the Board of Health, at the Women's Hospital and Protestant Orphan Asylum Total diphtheria patients treated with antitoxin were 374, with 47 deaths Total doses for immunizing, 119 Failure to immunize, 25 There were dispensed 643 doses, representing 493 patients, a seeming discrepancy of 150 doses This is accounted for by the fact that in many cases two and sometimes more doses were given to one patient

	CASES	DEATHS	MORTALITY RATE
Antitoxin	374	47	12 56 per cent
Other treatment			
Without antitoxin	467	163	34 90 per cent

Percentage in favor of antitoxin, 23 34

The total cost of antitoxin for these cases was $1,234 45

TENEMENT HOUSES

I would call attention to the fact that in building tenement houses, they are constructed in such a way as to defeat any efforts in attempting effectual isolation Ordinary houses are rented and occupied by several families, sometimes as many as four There should be *some* remedy Whenever a case of contagious disease develops in such a building it becomes our duty to placard and place in quarantine the family in which the disease occurs This may seem a very easy problem to solve, but it is in reality one of the hardest that the Health Board has to grapple with, for several reasons *Isolation can not be perfectly maintained* More than one family occupies the house Those families in which there is no sickness can not be quarantined, and all we can do is to seal all entrances to a common hall, so as to prevent them from mingling with those not in quarantine An economic council or board of aldermen consider it too expensive to have guards or inspectors It costs the people too much

Our inspectors are asked, by those who realize the fearful danger from diphtheria, why the health officer does not order the case to the hospital They are informed that if the patients are willing, the health officer will send the patient to the hospital, at the expense of the health department It may be that the patient is a little child, a mere babe, and the mother inquires if she can accompany her babe On being informed she can not, as the hospital authorities will not allow it, she refuses point-blank to allow the child to be taken She will stay at home with the child and nurse it, endangering the other children, simply because she will not allow the child to go to the hospital It must be apparent that for the tenement house patient, the Board of Health should make an arrangement by which we could have cottages of refuge for diphtheria, and also for scarlet fever cases I find by conversation with mechanics and their wives that they would gladly avail themselves of such a place, were they assured that one of the parents, preferably the mother, could accompany the child The father in case the mother refuses to let the child go to the hospital, must have his house quarantined, and if he wishes to continue work he must board away from his infected house Under the "Cottage of Refuge" system he could come home to the remainder of the family at night, to a home which has no infection in it, and from which he goes on the morrow to work, without danger of infecting other people There is no germ to be carried in his clothing

I have often been met with the remark, "Why not force the father and mother to give up their child and take it to the hospital for the benefit of the community?" The sanitarian who says that on paper would feel differently if he were to individually put it to a test There is nothing in the world so strong, so clinging, so self-sacrificing, so self-denying, so beautiful in its freedom from selfishness, so bold and courageous in the defense of her babe, as the love of an anxious mother Fearful sometimes themselves, of the terrible pestilence which swept Detroit city only two years ago, when told that the child had it and must go to the contagious disease hospital, they refused to allow it to be taken to the ambulance unless they could accompany it I took always one of the parents, sometimes it was the mother and sometimes the father I usually let them decide that question between themselves, husband and wife, as to who should go with the child to the smallpox hospital My experience with these people has led me to realize that unless we allow the mother to go with the child, we will fail in the majority of cases, for the reasons given above

What is true of smallpox is equally true of diphtheria Tenement houses are the hotbeds where virulent forms of diphtheria are cultivated, and from these culture-beds the poison is spread through the city It reaches the homes of splendor and luxury from just such places, from cases which are not known until the death certificate comes in, signed by the physician, "Called in just before the child died" The cottage refuge system would relieve this state of affairs materially In order to carry out this system satisfactorily, the Board of Health should be untrammeled by *political* appointments, either on the board itself or among its employes

---

THE RIGHTS OF THE PUBLIC IN DEALING WITH THE DEFECTIVE CLASSES

Presented to the Section on State Medicine, at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY ALFRED WILMARTH, M D

SUPERINTENDENT OF THE WISCONSIN HOME FOR FEEBLE MINDED
CHIPPEWA FALLS WIS

The care of the dependent classes has been a matter actively before the public for many years, and in its rapid evolution has now assumed such proportions and carries with it such enormous expenditures that its growth and possible curtailment are questions of grave importance We can justly pride ourselves on the admirable system and vast extent of our charities, but we can not but realize that they constitute a tax of no small importance on the income-earning portion of our population

The last census states the number of blind in the United States as 50,411, of deaf and dumb as 80,616, of feeble-minded 95,571, and of insane as 106,254 The two first-named classes are not wholly dependent, and are very often entirely self-sustaining, and money spent in their education is well spent The classes who nearly or entirely live on the public are the insane and imbecile, the pauper, habitual criminal and the tramp

The treatment of the pauper and the tramp belong more properly to the sociologist and local magistrate than to the physician, although they merge into the other classes in such a way that there is no sharp dividing line It is to those dependents whose condition is due to physical degeneracy or diseases that I wish to particularly call your attention

The census report on the insane gave the total in round numbers for the country at 92,000 in 1880, and 106,000 in 1890, for the feeble-minded at 76,000 in 1880, and 96,000 in 1890 It is probable that the enumeration of the insane may be far more accurate than that of the feeble minded, as the higher grades of imbecility are often not recognized or at least not acknowledged by relations, and past investigations have shown that a large proportion of these are not acknowledged to census officers Even with these figures we have over 200,000 in these two classes At an average weekly cost of $2 50 a week, which is probably an underestimate, the actual money cost of their care amounts to over $2,000,000 each month To this must be added the cost of the care of the habitual criminal, the dependent children, the vagabond and the habitual drunkard So varied are the demands for the support and relief of all the dependent that we find that the New York State Board of Charities expended nearly eight and a half millions of dollars in 1880, and nearly sixteen and a half millions in 1890, although the population of the State increased less than 20 per cent in that decade And this startling amount represents the expenditure in one State only These few figures demonstrate, as well as many pages could, not only the burden which rests on the more thrifty and stronger members of our community but also its constant increase Carry these figures through the many States of the Union and realize their enormous total

If we look closely into the lines along which this army grows we will begin to see at once that certain families contribute very largely to the total The history of the "Juke" family has been often quoted I took occasion two years ago to call your attention to the history of "Margaret, the Mother of Criminals," whose progeny of paupers, beggars, prostitutes and criminals reached 700, their family vigor being preserved by intermarriage with vigorous families of ruffians, some of the women bearing as high as twenty children I also referred to the "Tribe of Ishmael," where the offspring of one neurotic man intensified by consanguineous marriages numbers some 5000 individuals "whose continued criminal record has poured over the Northwest a flood of imbecility and crime" I want to add to this a family recorded by Prof Belman of the University of Bonn They are the offspring of a notorious drunkard who died in 1800 His descendants number 834, of whom 709 were traced from their youth Seven of these were convicted of murder, 76 of other crimes, 142 were professional beggars, 64 lived on charity, and 181 of the women of the family lived disreputable lives The family cost the German government for maintenance and costs in public institutions $1,250,000—in other words, $1,500 each These are extreme instances, but instances on a smaller scale may be found by any one who cares to look for them I now have a family in mind where there are seven children, all feeble-minded and the daughters are bearing illegitimate children to form a third generation of weakness, perhaps crime

The vast majority of authorities testify to the truth of the transmission of ancestral characteristics as shown in these examples Through the channels of transmitted nervous weakness and inherited moral taint the vicious stream flows and multiplies Checked somewhat in its course at times, but not fully eradicated, it will resume its flow whenever conditions are favorable To show the persistency of the degeneration, it sometimes happens that a feeble minded woman will bear children by several different fathers, and all will present the mother's weakness, sometimes intensified With such proof that neurotic weakness is directly transmitted in all its forms, with the knowledge that this heritage has been accumulating for perhaps several generations, we can hardly expect it to disappear in a brief period of education, or a sound mental and moral condition to be created from a weak one in any limited time Education may do much for them in the way of increasing their power of self-support, but can never eradicate the characteristics which are their birthright and which are bound to pass from them to their children, to lie dormant if their surroundings be fortunate, or to readily spring into activity under the stimulus of unhealthy surroundings or example Now, is it not wise that such individuals should die without increase, allowing healthier stock to perpetuate our race?

I have dealt at some length on the money cost in their support but that is not the only evil incident to their existence Their evil example is always before the children of the community The insane man or woman is, furthermore, a constant menace to the safety and even the lives of our citizens Look up for one month the number of assaults and murders committed by the insane and his near relative, the drunkard The murder of whole families is not so infrequent, and the awful murder of Terriss, the actor, by the eccentric Prince is only one of many crimes which come like the lightning stroke from those who have been regarded as amusing subjects for sport or avoided as bores from their inordinate egotism

The family whose members have not sufficient intellect to establish a decent support for themselves and not sufficient moral strength to refrain from petty crime is a neighborhood nuisance, as any one can testify who has lived neighbor in their vicinity How shall the rights of the public be sustained in this matter? For the little ones, the numerous child-saving institutions are at present doing a great work, placing the children among good surroundings and giving them every advantage of development A certain proportion of these waifs can not develop, and they come back upon the public for care For such persons as are definitely determined to be permanently defective we have three radical methods to prevent further increase 1, sequestration, 2, prevention of marriage, 3, surgical interference In many ways the public has taken the ground that the welfare of the many shall take precedence over the liberty of the few The man who unlawfully takes his neighbor's property, even in small amount, is promptly imprisoned The insane man becomes dangerous to his neighbor or himself, and is confined until danger from his being at large is supposed to be removed

The man who wilfully inflicts bodily injury on his neighbor is taken in hand by the law, and conditions placed over him to prevent his doing so again, either by a money fine or imprisonment or he may be placed under bonds, or imprisoned, if it is known that he intends to repeat his offense On the other hand a neurotic man may marry a [illegible] and bring into the world nine beings, as I have stated, to live a lifetime of suffering An insane man may go home to his family during his better periods from a hospital and resume his family relations and cause the birth of other beings, who stand much more than a chance of a miserable life And in very few States is this discouraged

The imbecile may marry, and marry pretty often, and the taxpayer supports the fruits of such a union, often with money that represents much self-denial, and perhaps should be spent in the better education of his own promising offspring A woman recently wrote me, "My husband died, and as I had *no other means of getting a living*, I married again That man left me and I have married another!" She wished to dispose of her imbecile boy

As I have already said, there are three methods of meeting this evil 1 The woman may be sequestrated The question of "personal liberty" may come up here But personal liberty is not desirable when it can bring nothing but harm to its possessor Let the imbecile woman gratify her maternal instinct of caring for the little ones in caring for the little children in an institution The bearing of children, when it is only the fruit of passion, without any adequate sense of the responsibilities entailed, should never be It is no especial hardship for any defective woman to spend her life in a modern institution with every comfort furnished her and with congenial companionship She loses only responsibilities she is unfitted to assume, and escapes dangers of which she has no adequate conception Such a step ends her danger as a multiplier of her own weakness, and the present rapid increase in our dependent population would at once diminish

2 The passage and enforcement of more stringent marriage laws Laws have been passed in several States to this end, imposing a large fine on those who will, for a larger or smaller fee, perform the marriage ceremony in such cases With the State caring for the women who have not the mental or moral strength to care for themselves, and the law preventing the marriage of those known to be insane, epileptic or habitually criminal, the production of the unfit will surely be greatly controlled and the public far less alarmed when the great number and cost of support of the dependent is brought to light

3 The adoption of surgical measures for the prevention of the further increase of such defectives as threaten to be a life burden is coming more and more into prominence It has been boldly advocated by some prominent in the work Few men, when their attention is earnestly called to the matter, can urge any very strong objections against it It would not be necessary, if it were possible to fully carry out the idea of sequestration and prevention of improper marriages to complete success, but neither of these provisions are so surely effective as this radical measure

The farmer knows that he can exterminate the weeds most thoroughly from the ground, which should bear only life supporting grain, by seeing that they do not seed For those who with no right to have offspring, yet will offend against both morality and law, the surgeon may yet be called upon to follow the example of the farmer, and by operating, guard society from the contamination and burden of the increasing number of those whose lives should never be begun, and by a comparatively safe operation make parentage impossible The public are not thoroughly alive to this matter, simply because they are unable to see the evil in its aggregate importance, and when they do awake to its magnitude much sentiment will be replaced by earnest, business-like methods of suppression and control The time may even come when continuous births of defective children in one family may be thought of sufficient gravity for a forced separation of the parents The idea of nine helpless ones being born into a community does not seem consistent with modern civilization Yet I know of two families where such a tragedy has occurred and many more where from three to seven have been born

I have ventured to bring this subject before you again because it is one of the great social problems which lie largely in our province to solve, and to which it is our duty to give our most earnest thought, and I ask for it your aid, if on mature thought you find that the views here advanced lie in the line of true reform

---

THE WATER SUPPLY OF CITIES

Presented to the Section on State Medicine at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo , June 7-10 1898

BY C F ULRICH, A M , M D

WHEELING W VA

This is one of the burning questions of the hour It is not because there is a lack of water We have an abundance of streams, from the smallest brook that rushes down the mountain side, meanders through the fields and meadows, between flowery banks, over gravelly beds or through rich soil in cultivated bottom lands to the great Father of Waters, fed by the hundreds of streams permeating the immense territory spread out in magnificence between the Alleghenies on the east and the Rocky Mountains, rearing their lofty summits to the sky on the west This vast system of streams carries the almost unlimited supply of water that falls from the clouds, by day and by night, down to the boundless ocean, rendering the magnificent valley of the Mississippi the fairest, loveliest and most productive portion of the surface of our terrestrial sphere We have that immense chain of lakes from Superior to Ontario—that beautiful system of inland seas that divides the "Land of the Free and the Home of the Brave" from the British Possessions on the American Continent

We can not, therefore, complain that, in a general way, there is a scarcity of the aqueous fluid, although when the burning summer sun pours down his scorching rays upon the thirsty surface of the earth, the rains cease to fall, the brooks dry up, the creeks diminish in volume, the rivers grow narrow and shallow, not permitting boats to navigate them, and in places even becoming fordable Yet, in the main, there is water enough in the streams to supply the wants of the population living upon or near their banks

What is it, then, that makes the question of the water supply such an urgent one, causing so much complaint, so much anxiety, giving rise to so much contradictory legislation? Sixty years ago we heard nothing about the water troubles People had their springs or wells, from which they procured water for drinking and cooking, while for washing and cleaning they would catch rain-water in barrels and cisterns, or they would haul water from neighboring streams, leave the barrel standing near the house until the supply was exhausted, and then make another trip to the stream Even now, in some antiquated cities of Southern Europe, Asia and Africa, there are water-carriers who supply the population with water, hauling it in a cart, carrying it on the back of a mule or donkey, or even on their own backs With the modern ideas of comfort, convenience, cleanliness and health such primitive means of supplying water would be absurd The population of the earth has increased at an enormous rate during the last century, and the general tendency has been to congregate in cities, so that now a city numbering less than 100,000 inhabitants is counted little better than a village, and several cities number their inhabitants by the millions Now the problem of furnishing such immense accumulations of people with a sufficiency of water for all uses becomes much more difficult than a superficial observer would imagine

There are conditions essential to make the water-supply of a large city what it should be, and in many places, one, or even two, of these are wanting, while in some even all three are deficient These conditions are a sufficient quantity for all possible emergencies, clearness, i e, apparent purity, and healthfulness, i e, freedom from disease germs

Let us first consider the question of quantity There is a vast increase in the amount of water used now over that used fifty years ago by the same number of people Why is this? Do they drink more? No Do they wash more? Probably, because they have made some progress in cleanliness Have they more cattle and horses to water? No, for steam and electricity have diminished the demand for horses, and the number of cattle, in proportion to the population, has not been increased

Let us see what has caused this great demand for water in excess of what was formerly required In every densely populated city the sources of disease are necessarily increased The air is contaminated where people are closely crowded together How that can be corrected by the copious use of water will be explained farther on The excreta of men and animals contain much that is unhealthy, even when not charged with disease germs This necessitates much water to remove them and clear away their traces from the places where they were deposited The streets want to be cleaned, the alleys and stable-yards cleaned out, the sewers flushed A variety of apparatus must be employed to remove filth, which either contains the disease-producing bacteria or forms a good nidus for their propagation, all of which requires large quantities of water But there are other causes for the increased demands for water, as, for instance, machinery Half a century ago, much of the manufacturing was done by hand, which required but little water Now we have steam engines for driving all sorts of machinery, and for putting electric dynamos in motion, also water-motors, all of which use up great quantities of water

The water-motor especially, in which class is included the thousands of elevators found in every city, consumes enormous quantities of water Formerly the merchants had buildings two or three stories high, and when they wanted to go to the upper part of the house they walked Now their buildings are from six to ten stories high, and the sky-scrapers, built principally for offices, reach the enormous height of twenty to thirty stories Now, how do the occupants ascend to these dizzy heights? It is by means of elevators or lifts which are run mostly by water-power, and some by electric motors Every restaurant and saloon has a motor to bring provisions from the kitchen, beer, ale and wine from the cellar, to run the fan in the summer to enable the customer to keep cool, while being heated up with the drinks they take, and for many other uses

The average citizen knows very little of how much water is required for such purposes I never had the least idea of the enormous quantities of water that are consumed until I became a member of the water board Then there are the fires that occur in large cities, where whole blocks and sections would be destroyed if the fire department with its vast consumption of water did not come to the rescue In order to preserve the health of the city, frequent cleaning of the streets and flushing of the sewers are necessary The sprinkling of the streets done by individuals in front of their houses, although consuming a good deal of water, does not contribute much to the cleansing of the city This work, in order to be effective, should be done on a large scale by means of the fire-hose, which prevents the dust, charged with disease germs, from rising and exposing all who breathe the dust-laden air to the danger of contracting disease

In order to meet all these wants it is essential to have reservoirs large enough to hold a sufficiency of water to supply the city for at least a week For, if any accident should happen to the machinery to disable it for several days, and the reservoir is too small, great suffering would be entailed on the city When the citizens of Wheeling, W Va, my home, were informed that our reservoir, which they had always believed to be ample for our wants, had to be filled from two to three times in twenty-four hours to keep the city in water they were thunderstruck, requiring a sight of the daily records of the waterworks to be convinced If the waterworks are owned by the city, as is the case in Wheeling, the city fathers would see to it that a sufficiency of water is provided to meet any such emergency In our case, the city council, not seeing their way clear to spend the large sum necessary to build a new reservoir, sixteen or seventeen times as large as the one we now have, did the best they could under the circumstances, giving the water board permission to establish a new pump of sufficient power to keep the city from a water famine in case of accident, kindly permitting the board to pay for it out of the receipts from the water rents Should a stock company own the waterworks, the city government would either compel the company to provide for all contingencies or would annul their charter and establish a pumping station of its own, unless they had been foolish enough to grant a perpetual charter

Another advantage of a large reservoir is that it affords facilities for connecting a filtering apparatus, which brings us to the second part of our subject—clearness of the water Although filtering does not clear the water entirely of disease germs, it does so to a great extent, for they are more apt to attach themselves to the solid material that is found in the water Besides, filtered water has a decided advantage over that pumped directly out of the stream It is more palatable and more pleasant to drink, it does not nauseate you when you raise the glass to your lips and make you wish you had a glass of beer instead it is better for washing clothes and [illegible] very kind Besides, the filth that is [illegible] for during and immediately after a disease as well as disgust I will not here enter into a discussion of the relative merits of the two great systems—the English or sand-bed filter, and the American or mechanical filter—that being a subject for an association of water boards rather than a medical association Each one has its peculiar advantages and disadvantages From the very limited investigation I have been able to make, I prefer, the sand-bed filter, where a suitable location can be had, where the right kind of sand is easily accessible, and where money is not too scarce, because in this system no foreign substance is required, such as alum or similar substances, which are indispensable with a mechanical filter, for the purpose of coagulating albuminoids

I will incidentally mention that a filtering apparatus, improperly cared for, is worse than useless It would act simply as a store-house for filth and bacteria of every kind, which would remain in the filter Then, when clear water passes through, it will be itself contaminated by the filth left in the filter from former masses of impure water that had passed through Therefore, whenever a filtering apparatus is established in connection with a reservoir, ample provision should be made for cleaning it regularly, with special care after the occurrence of high water When the plant is owned by the city, all these things can be attended to by the proper authorities, among whom the health officer, with his staff of assistants should always be included, because a great many questions come up, in the management of filtering apparatus, that affect the health of the inhabitants From the experience our little city of Wheeling has had, I would very strenuously advocate the city ownership of all the works pertaining to the water-supply, so that the city authorities may have entire control of the whole business There is, however, one disadvantage in this arrangement I mean the political favoritism that is shown in the selection of officials and operatives, which works harm to the service by handicapping them in the performance of their duty, they being to some extent subject to the caprice of the voters Or, if they adhere rigidly to their idea of what is right, they are subject to being turned out on a change of administration, perhaps just in the midst of some important improvement they are about to carry into effect Notwithstanding this drawback, which should not be permitted to exist and which could easily be prevented by establishing a civil service list of all officials and operatives whose frequent change would be detrimental to the service, the city ownership of waterworks, gasworks, electric street lighting, etc , should, in my opinion, be insisted upon in every municipality

There is one question arising here, which seems to me to be of considerable importance I said, in the beginning of this paper, that only a small part of the water furnished to a city is consumed by families for drinking, cooking, washing, and other domestic uses The great bulk of it is used for street cleaning, quenching fires, flushing sewers, running machinery, all sorts of motors, lifts, elevators, etc , which are propelled by water-power It would seem to be a great waste of labor and money to filter water used for such purposes as that, from which no benefit whatever would be derived My suggestion would be to filter only such an amount of water as is consumed for domestic purposes—drinking, cooking and washing—besides any fine mechanical work in the prosecution of which clear water is essential This would make a very great reduction of the expense of filtering, without invalidating its utility But here the objector will come in and say "How can that be done? Can you send filtered and unfiltered water through the same pipes?" Certainly not You would have to establish two reservoirs and two separate systems of pipes, both to be supplied from the same pumping station This would entail considerable expense at the beginning But the great saving in the cost of filtering would, in a few years, wipe out the additional cost of reservoir and pipes I throw out these ideas simply as suggestions to induce reflection and study on the subject, leaving it to specially trained minds to make the necessary calculations, and decide on the feasibility of the plan The proportion of bacteria that can be removed from the water by filtering I am not prepared to determine, but I know that from 75 to 90 per cent are claimed by various contractors I believe that one firm has gone so far as to guarantee 97 per cent If this is the case, which I am not prepared to assert, having made no microscopic examination of water before and after filtering, there would be very little more necessary to bring about the third condition, i e , the purity of the water, or its freedom from disease germs

So far as I can see, nothing more can be done by public works, and, if private consumers want a greater degree of purity, they must boil it in their homes after receiving it filtered from the waterworks Many families have been boiling their drinking water for a number of years But to boil unfiltered water renders it unpalatable, and generates disgust in the one drinking it, so that an unwillingness to drink water ensues, and many persons resort to beverages that are injurious, damaging the consumer both in body and mind In connection with a filtering apparatus, an arrangement for aerating the water would be of great service When water is entirely devoid of air, it tastes flat, lacking that exhilarating quality that makes water so pleasant a beverage, enlivening the tired laborer and making him prefer a cool draught of fresh, aerated, ozonized water to beer, or any other of the customary drinks consumed by the masses of laboring men, while it promotes the health and liveliness of children, improving their digestion, assisting in the assimilation of their food and causing them to grow up to be strong, healthy and happy men and women The method of aerating the water in connection with the filtering process I am not prepared to discuss at present I am, however, giving the subject some attention, and may possibly be able to furnish a paper on it and kindred topics on a future occasion

How to prevent the pollution of streams from which the water-supply is taken, thus obviating and making unnecessary much of the labor and expense of which I have given you an imperfect description, is a subject of such vast importance and such almost limitless extent that I would not venture to bring it into this paper, having already reached the limit of time allowed Should I ever feel within myself the ability to cope with that momentous question, I will come out with an essay on it at some future meeting "Water Its Uses, Benefits, Indispensableness and Purity" constitutes an inexhaustible topic for the medical writer, the sanitarian, the statesman, yea, for every father of a family, and for every housekeeper An abundant supply of clear, pure, sparkling water, will contribute more to the health, comfort and happiness of the human race, than any other single article that could be mentioned Every health board—National, State, city or town—every public official, whose position gives him authority in questions of that kind, every man of influence, who can prevail with those in authority, should strive with all his might to bring about a condition of things that would make good, pure water accessible to every one The benefits to be derived from that state of things can scarcely be calculated Water—the best and cheapest of all medicines, the promoter of comfort and happiness—should be supplied to every human being in abundance, in the best possible condition of purity, for the lowest available price that is compatible with the cost of procuring and furnishing it The city authorities should not be penurious in providing this great promoter of health and happiness to all who live within their jurisdiction For in spending money for this laudable purpose, they would be casting their bread upon the waters, which would return to them after many days, since the increased health and happiness of the inhabitants would add largely to the wealth of the city, and all would contribute to the general prosperity

---

THE IMPORTANCE OF BACTERIOLOGY IN THE PROGRESS OF PREVENTIVE MEDICINE

Presented to the Section on State Medicine at the Forty ninth *Annual Meeting of the American Medical Association* held at Denver Colo June 7-10 1898

BY FRANKLIN STAPLES, M D

WINONA MINN

An English scientist has designated the present time as the "bacteriologic era" It has also been properly called "the period of preventive medicine" The reason and propriety of these appellations as together applied to the times, appear in the fact, that the more important advances made in medicine and surgery in late years have been dependent upon, or more or less connected with, discoveries and practical work in bacteriology The names of scientists who have been and are now engaged in this work of advancement in different countries require no mention It has been claimed that different characteristics in scientific and practical work have national or provincial origins and belongings, that, for instance, it was for German scientists, by patient investigation, to discover and furnish the foundation material, to be utilized largely by practical workmen of other nations In this country it is remembered when in medicine and surgery the making of books and scholars was accredited largely to Philadelphia, while New York and other places were given importance in the work of practical application Whatever may have been true in the distant past, in the present outlook geographical limitations in science seem to be unknown

STATE MEDICINE AT THE PRESENT TIME

In the United States, as in other countries at the present time, preventive medicine is supported largely by the State Aside from a humanitarian view, the value of human life to the State is considered, as well as that of property, and means are provided for the better protection and development of both

The beginning of State preventive medicine proper antedates by a little time the coming of bacteriology as a science, but the growth of the former in the few years of its existence has been phenomenal State medicine began in England in 1844, and in the United States properly in 1889 Since then nearly every State in the Union has established health departments, each State having its local boards and officers, acting under laws more or less complete for the maintenance of public sanitation

Various property interests have conspired to extend the limits of the domain of State medicine The discovery of the identity of many diseases in man and animals, and the liability of the passage of infection in either direction, have given increased importance to veterinary medicine, and this, with the financial importance of loss from disease of animals, has largely increased the extent and importance of State sanitary control

What has appeared concerning the existence and character of disease germs, their conditions of life, means of propagation, and behavior as specific disease causes, in other words, the pathology of germ diseases, has come to be the foundation of a large part of modern scientific medicine Moreover, work in bacteriology in the last decade has not only widened the field of pathology, bringing into the possession of the world of science a new territory of vast extent and great value, but has pointed to possibilities in the future of preventive medicine, the extent of which may now be imagined but not fully estimated

Concerning living organisms as causative agents in what are now known as infectious diseases, it has been aptly said "It matters not whether the organism is large or small, whether it belongs to the animal or vegetable kingdom, whether it is located in the skin, as in scabies, in the muscles, as in trichinosis, in the lymphatics, as in erysipelas in the solid viscera, as in amebic abscess of the liver, in the intestine, as in relapsing fever, the introduction and multiplication of the living infectious agent constitute infection (Sternberg)

The distinction as understood between infectious and contagious disease relates principally to the nature and method of introduction of the disease germ in different affections, and has its importance in the matter of treatment, the kind of isolation required, and other preventive measures The passage of contagion in diseases of the first class may be, and ordinarily is, through the air to susceptible individuals coming within its reach, the less volatile germs of diseases of the second general variety are themselves more tenacious of life, find lodgment in clothing, may infect houses, are liable to be taken in the ingesta, and require different treatment and management in exclusion What has come to light in the study of bacteriology has not only largely increased our knowledge of the means of preventive medicine, but has made this appear a legitimate field for work under the control and with the support of State and municipal government, and has given direction therefor

Already in several of the States, in many of the larger cities, and in the Canadian Provinces, as well as in countries and cities abroad, bacteriologic laboratories are established and supported by National and State health authorities In some instances examinations for diagnosis, analyses of water and food products, and other works are done for State and local health departments in college and private laboratories The importance of this work in the domain of State preventive medicine is now generally understood and appreciated As exceptional, however, to this, and seemingly below the general average of intelligence and good judgment in the country, is the fact that a certain class of persons, even in the present year, has tried to secure the passage of a national law for the District of Columbia, forbidding the use of guinea pigs, rabbits, rats, mice, and a few other animals, in the practical study of the great art of preventive medicine These mistaken would-be-philanthropists have little knowledge of the saving of human life and the prevention of disease and suffering already accomplished by discoveries in science due to these means of study

THE PROVINCE OF BACTERIA

Not all bacteria are necessarily pathogenic when existing within the body, but are controlled in their action by circumstances and conditions Besides, they may not be wholly without advantage to the natural world Scientists have shown in various ways the importance of bacteria in their relation to the existence of organic life on the earth Placing man at the head of the scale of living beings and the unicellular organisms known as bacteria at the foot, Dr Sternberg gives the general view as follows "The relations of these microbes to the lord of creation are more important and complex than those which exist between man and any other group of living organisms "In the absence of bacteria or of some other organisms to perform their function, the continuous existence of man would be impossible, for it is due to their activity in decomposition of animal and vegetable substances that organic material, stored up as a result of the vital activities of higher plants and animals, is returned to the soil and atmosphere after the death of these Without such a provision of nature, organic life would long since have come to a standstill from the storing up of those essential elements which go to make up the structure of animal and vegetable tissues But as a result of the decomposition of such tissues after death, through the agency of bacteria, these elements are released from the complex combinations in which they exist, and again become available for the nutrition of living plants and animals [1]

Various kinds of bacteria have an important part in the etiology of disease Certain disease germs are necessarily pathogenic in themselves, and others may become so when lodged in a soil the condition of which is suitable for their development

CONCERNING IMMUNITY

Among the problems made prominent, and concerning which much has appeared in aid of their solution, is that concerning susceptibility on the one hand, and power of resistance on the other, to the encroachment of disease in the various organs of the body In this, marked difference in different animals and man have been found, and the practical advantages of knowledge gained by experiments in this direction appear in the more accurate and complete knowledge afforded in the choice and application of protective means

Immunity to disease infection may be natural to a body under certain conditions, or it may be induced by artificial means The first is shown in cases in which disease germs are known to remain harmless in the body, while vigorous and healthy action is maintained in the tissues, but when this is reduced they at once begin their work of destruction The micrococcus of croupous pneumonia has been found in the salivary secretions in quite a percentage of healthy individuals examined During the prevalence of diphtheria in a household, diphtheria bacilli have been found in the mouths of individuals who presented no evidence of diphtheria infection Here the germs were in no way taken into the tissues, and were without even local effect Diphtheria is especially a disease of childhood, for the reason that the tissues of the child's body are more susceptible to its infection than are adults When the disease is fatal to the younger members of the family, the older members often escape with a slight throat infection which shows the specific germ, but which works its own cure by the production of its own antitoxin in the infected parts, and fails to result in a general disease It is found, however, that fatal infection may be given from these otherwise unimportant cases, hence the necessity of careful isolation in these cases as well as in others, as a means of preventing extension of the disease This is further illustrated in a case reported by Rosenbach[2] and mentioned by Senn, in which an apparently healthy mother gave birth to a child suffering, when born, from acute osteomyelitis The infection here must have been transmitted to the fetus from the blood of the mother, whose body was itself immune to the action of germs of this disease

Pathogenic bacteria affect the animal organisms in two principal ways First, by depriving the cells of different animal tissues of oxygen and nitrogen and appropriating the same to themselves in their multiplication and growth, and second, by infecting the solids and fluids of the body by certain toxic substances which they secrete Aside from the toxic substances secreted by bacteria, which are in a geater or less degree injurious to the tissues and may cause death, there are other substances resulting from the action of bacteria, which affect the tissues of the animal so as to prevent further infection of the same disease germ In this fact appears the explanation of immunity, as it results from an attack of infectious disease thus acquired The length of time that it holds in the body varies greatly in different diseases and in different animals, races, climates and conditions It must be said, however, that the exact nature of the change or changes which take place in the body resulting from the introduction of disease virus, the action of which causes immunity to a future attack of the specific disease, has been a matter of question Some have considered it to be the neutralization of certain substances existing in the tissues or fluids of the body, which are necessary to the development of the specific bacteria, others, that the action of the disease germ in an attack is productive of certain substances which, remaining in the system, prevent the further action of the particular germ Other theories have obtained, but what is now known seems to be only, that by an attack of the disease, the tissues are in some way rendered wholly or in a great measure unsuitable soil for the future development of the specific germ As expressed by Prof F F Wesbrook, bacteriologist to the Minnesota State Board of Health "We must admit that no one factor observed in the production or acquirement of immunity explains all the phenomena of the process The blood or tissues of an immune animal will kill off either in test-tubes or *in vivo* only a certain number of microbes (to which the animal is immunized), after which the others (if above a certain number be introduced) will grow, since it is neither exhaustion of the food material nor increase alone of the metabolic products of the bacteria themselves, but an anti- (bacterial or toxic) substance which is capable of being overcome by a large dose of microbes"

---

[1] Immunity and Serum Therapy, p 12

[2] Surgical Bacteriology p 21

Among the more important diseases affecting either man or the lower animals, or both, in which different forms of bacteria are found to exist either as specific causes or as necessary concomitants of disease actions, are acute pneumonia, tuberculosis, glanders, leprosy, anthrax, actinomycosis, variola, typhoid fever, yellow fever, cholera, diphtheria, tetanus, such affections as have been called plague, venereal diseases and other diseases generally of minor importance, including the contagious diseases of childhood There is now a history of discoveries made and facts demonstrated concerning the character and modes of action of the different specific bacteria in disease These discoveries for the most part have been the result of continued labor on the part of scientists, and have not come from fortunate accident The practical advantages which have resulted or may result from these advances vary in extent and importance in different cases, but all afford evidence of the coming of a more complete knowledge in pathology, looking to more

of disposing of the dead, etc 2 In preventing the passing of contagion, by authoritative isolation of the infected 3 By securing immunity to disease in the individual, when necessary, by artificial means In each of these departments of work a practical knowledge of bacteriology, of the character, behavior and the possible management and destruction of disease germs, has come to have an important place

1 In the first department of sanitary work here noticed, the knowledge of what constitutes a means of propagation—the germs of various diseases such as filth on persons and in and around dwellings, decaying animal and vegetable matter, and the want of pure air and sunlight in basements, as aids in the production and growth of the bacillus of diphtheria and other infectious diseases, has laid the foundation and led to the enactment of laws authorizing and compelling sanitary inspection, with provisions for correcting and improving unsanitary conditions by State and municipal authority Besides this, it is seen that the authoritative cleansing of private houses, public places, persons, animals and things has an important result for good in the educational influence which

mon, where a question arises as to the priority of discovery because of the nearness of the dates of the first public announcement The German scientist, Fraenkel, published his discovery of the same micrococcus only thirteen days after the published announcement of Sternberg, and the germ has been called "Fraenkel's diplococcus of pneumonia," this for the reason that he appeared to have first shown the relation of the microbe to this acute disease of the lungs Dr Sternberg gives credit not only to Fraenkel, but to Weichselbaum, Netter, Gameleia and other experimenters, for discoveries and improvements in bringing the knowledge obtained into practical use[4]

It has been determined by experiment on susceptible animals, that immunity for pneumonia may be had by inoculation with an attenuated culture of the disease germ, and that the completeness and duration of immunity thus produced bear relation to the degree of immunity caused by a natural attack of the disease

For details in the work of preparation of cultures and their use in treatment, reference is made to the practical works of bacteriologists now available

Anthrax—Another disease that may be noticed in this connection is anthrax This disease occurs epidemically among herbivorous animals—sheep, oxen and others—and may be communicated to man A historic summary is given in the practical work of Muir and Ritchie,[5] in which is shown the discoveries made in the bacteriology of the disease, which have led to a knowledge of its pathology and rational management First, in 1840, Pollender discovered rod-shaped bodies in the blood of anthrax animals, in 1863 Davaine named these bodies the bacillus anthracis Koch, in 1876, made his first contribution to bacteriology in which he confirmed the view that the bodies were bacteria, and made discoveries concerning the formation of spores on these bacilli, their multiplication by division both in animal tissues and in cultures outside the body, and, by inoculating animals with them, produced the disease artificially Pasteur disagreed with Koch in some minor points, but in the main confirmed his observations The existence of spores on this bacillus, and the fact that these may be cast off and distributed outside the body, and that the vitality of these germs may remain for considerable time in spite of desiccation and great changes in temperature, appear as an explanation of the natural spread of the disease The author here quoted sums up concerning the advantage of the study of this particular disease germ as follows "Not only is bacillus anthracis easy of growth and recognition, but in its growth illustrates many of the general morphologic characters of the whole group of bacilli, and is therefore of the greatest use to the student Further, its behavior when inoculated in animals illustrates many of the points raised in connection with such difficult questions as the general pathogenic effects of bacteria, immunity, etc Hence an enormous amount of work has been done in investigating it in all its aspects

Glanders —This well-known infectious disease, which principally affects the horse, is sometimes found in other animals, and may be communicated to man It is generally believed that in glanders no means of communicating the infection exists, other than that of direct contact with the affected parts of the diseased animal, or with some substance on which the infection has been lodged The following illustrative case has been published A young lady while traveling fondled and kissed a small dog belonging to a traveling companion The dog had been noticed to sneeze frequently After arriving at her destination the young lady was first affected with a redness of the tip of the nose, which did not yield to any remedy, then the nose became inflamed and painful, and began to secrete mucus, and a diagnosis of influenza was made But the case grew worse, ulceration occurred and increased, and the microscope revealed a case of glanders In this case the disease germ may have passed from a horse to the dog and then to the human being The practical lesson concerning prevention is obvious

In Diagnosis—Not the least important use of various cultures of disease germs is that in diagnosis The use of mallein, tuberculin and cultures of the typhoid bacillus in diagnosing the affections of which these substances are the attenuated germs, may serve to illustrate Mallein is a fluid obtained from cultures of the glanders bacillus This was first discovered by Schultz and Lœffler in 1882 Schultz, as late as 1894, first taught concerning the difference in reaction in horses which were or were not infected when inoculated with mallein It was found that after the inoculation in glandered animals there occurs a decided rise in temperature, and around the point of inoculation is seen a circumscribed swelling In animals free from glanders, less febrile reaction occurs upon inoculation

The similar use of tuberculin in the diagnosis of tuberculosis both in animals and man has recently received attention Analogous to this is the serum (Widal) test for typhoid fever What has come to light as a result of study in this disease is mentioned by Pepper and Stengle[6] as the most important contribution to the progress of internal medicine during the year Concerning its value, it is remarked by these authors, that in the year investigators in every part of the world have tested its value, and with remarkable consonance declare it a diagnostic method of the very greatest importance Dissenting voices have been heard, but these for the most part represent no considerable authority or following

The diseases and methods of investigation and treatment here mentioned are given only as illustrations of the few for the many What shall be the changes and developments in means, methods and results, remains to be determined in the future Great progress has been made, but not without labor and self-sacrifice Besides, it is true that no advancement in medicine and science has ever been made without opposition Objectors and critics, both within and without the medical profession, have never been lacking Intelligent criticism is advantageous and helpful in the discovery of truth, but objection which comes from ignorance, and for this reason is more assertive, may be troublesome for a time, but in the end is harmless The intelligent student of science has no time to spare with such would-be-instructionists His work concerns great and important means of progress, the present outlook concerning which gives promise of most valuable results

Let us have a Department of Public Health!

---

[4] Sternberg Immunity and Serum Therapy, p 216

[5] Manual of Bacteriology p 275

[6] Year Book of Med and Surg, 1898

THALASSIC SUBMERSION A MEANS FOR DISPOSAL OF OUR DEAD

Presented to the Section on State Medicine at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY D LICHTY, M D

ROCKFORD ILL

The question most intimately following a *useful* existence here is a *harmless* absence after we are through It is evident that some suggestion for the disposal of our dead, other than earth-burial or cremation, is needed, from the unsanitary character of the former and the natural repulsiveness of the latter

To show that ocean burial is practical, sanitary, and will meet most of the requirements of sentiment and religion, and *all* those of sanitation, will be the endeavor of this argument That the beautiful fealty of genealogy and consanguinity and the sacred associations of religion are factors to be considered in this as well as any other method for the disposal of the dead is recognized, but above and beyond these is the unpurchaseable boon of health and its attendant uses and beauty

Every expedient that human thought could devise has been resorted to in all times past to conceal the human dead and escape their disagreeable, decaying presence and evade their naturally dreaded and noxious effluvia The nomad's village was removed to fresher and more remote territory, the ancestral cave was promptly deserted and relinquished to the grim destroyer, the rare and desiccating air of the plains did well preserve the body until disintegrated and distributed to the sands and dust, birds and beasts of prey were invited to devour the softer tissues while the bones bleached in the sun and the mists Chemistry has been invoked to offer an element that would preserve our form or else dissolve it quickly away, and modern electricity has been asked to envelop the loved ones in impermeable garbs of metal to preserve their cherished form and substance Aquation or sea-burial, except in accidental death *at sea*, was only practical when navigation was so primitive that the hardiest mariner dared not go beyond the shallows or out of sight of his native land, and when bathymetry and geodesy of the ocean were unknown The embalmers, from the Egyptians to the present, exhausted every resource of their art, then and now, to prevent the decay of the body, but Rameses' and Cleopatra's crumbling and repulsive features, held together with spiced pitch and rags, as seen in modern metropolitan museums, attest its grewsome failure

All these have failed to satisfy the longings of devotion to our dead, or meet the present rigid sanitary requirements of our rapidly multiplying and dying population, and we seem to have still nothing left but to "inhume the natives in their native plains"

Earth-burial remains an unsatisfactory and unsanitary presence as well as relic Incineration continues repulsive to all the finer feelings of nature, and we seek relief from all these in the truly *sanitary*, beautifully sentimental, and forever efficient disposal of our dead in the depth and vastness of the abyssal area of old ocean—illimitable and itself symbolic of the infinite in time and space—bride of the sun and vassal of the moon! "Nothing in Nature renders back to man the full and instant sympathy which is accorded by the mighty seas," who thus respose mildly in the generous grandeur of their glorious power

Sentiment must have a place in this presentation and in this every department of this subject can have a diversion and division as remote as *mythology*, as exact as *history* and *science*, and as generous as poetry aided by the imagination can plan, from Charon with the obolus, to pay passage, to Tennyson's "Crossing the Bar," from "Jordan's Stormy Banks" to "Canaan's Happy Shores"

As we emerge from the eras of superstition and shallow thought, and realize that the organic individual is but a transient here, and that disintegration and resolution of the body into its primitive elements is but an arc in the circle of perpetuation that care for the living, hope for the future and memory for the dead is our aim and object, so does it become forcibly apparent through every channel of study that the now well-acknowledged bane of earth-burial must somewhere, somehow, cease The catacombs everywhere, instead of being monuments of skilled subearth engineering, are rather persistent evidences of a civilization so remote and crude that, without implements of excavation, they could only follow the sand strata and rock seams in their meanderings toward "points of least resistance" for repositories for their dead An afterthought, with the then generally entertained idea of immortality of the material body, led to the attempts at decoration and barbarous body ornamentation which the dry sand chambers and corridors favored by desiccating the bodies, absorbing the gases and preserving the then sacred and esthetic attempts at color ornamentation for the amusement of modern sightseers

The deception that proximity to graveyards is harmless can not longer be maintained by corporations who own them, or municipalities that are supposed to control them The study of bacteriology and the toxins their secretions and their persistent life in all conditions, the penetrability of their gases to remote distances through pervious qualities and strata of soil their escape and ascent into the atmosphere, all impress the danger of such acres (though sacredly and sentimentally named) on chosen picturesque hillsides, near ravines draining the water courses, or inclining to wells from which the inhabitants of villages and cities derive their water-supplies and inhale the poison charged air

Every aggregation of population is confronted with this menace London has its finest cemetery—Kensal Green—of 18 acres, containing 70,000 recent bodies, an equivalent of 3-1/5 bodies to the space allotted an ordinary grave Paris has its Pere la Chaise, equally crowded, in 1871 the communists made their last stand amid its tombs and 900 fell in its defense and were buried where they fell, in two long trenches, their bodies mingled with quick lime to hasten their dissolution Other cities are struggling with this problem, owing to limit and contiguity of territory, building tombs above the earth, leasing the ground for brief periods only, and employing the chemistry of absorbents and deodorants and destructive acids to hasten disintegration, tossing the resultant dust to the garbage pile and fertilizing field

A perusal of the daily lay papers furnishes a surfeit of ghastly recitals of graveyard desecration of resurrection and demolition, of skeletons ruthlessly thrown about by workmen's pick and shovel within or adjoining, hamlet or city to make way for cable or conduit of commerce, or deep foundation for towering tenement The category of horrors associated with our crude plan of earth inhumation and attempted body concealment, despite all precautions, is neither in harmony with wholesome sentiment, economy nor *in any* sense approximate modern sanitary requirements. Every other phase of economics has advanced along progressive lines, ancient and modern plagues have been stopped, pain has been robbed of its terrors, time and distance have been annihilated, but a suitable and sanitary repository for our dead has not yet been secured. The "abyssal province" of the ocean, embracing 140,000,000 square miles, more than three times that of the earth's surface, and one hundred times that of the available area of earth, unfolds her limitless and aseptic bosom to envelop us, no actual bounds of length, breadth, height, or depth circumscribe her receptive capacity, the diversion of her shore lines are insignificant when compared with her area, and her perturbations are only on the surface, her deeper strata are scarcely moved in ages.

> The wave
> Unbroken in its tranquil aspect sleeps
> Serene as Beauty in her sunless grave,
> Nor moves a tide, unless its silent flow
> Be through the graves and coral halls below.

Ocean cables lie secure in their beds and swerve not though pulsating with war's weighty messages or love's tender tidings.

The antiseptic chlorin solution of the seas is as stable as air, dissipation and augmentation by affluents are compensatory and preserve a constancy of specific gravity. Its temperature at 400 to 1000 fathoms, in all latitudes in all seasons, day and night, is unvarying and on the verge of freezing. Decomposition, putrescence—the dread of the surviving and the bane of the air and the earth—do not take place in ocean burial.

Imagination naturally revolts at the inexorable chemistry of decay that must take place in vault and subsoil burial, putrescence at the bottom of the sea is unknown, ferruginous matter does not find its way beyond the extreme three-hundred-mile shore line, but here and beyond all is carpeted with pelagic deposits, crumbling remains of the inhabitants of the upper strata, feeding bathybius and the diatom, medusæ and the crinoideæ. Here disintegration will some time, sooner or later, proceed by an alchemy unknown to the present denizens of the earth. Ships go down along the paths of commerce, but deep sea dredgings find no relic of the myriads that have sunk in her tracks, iron ships soon corrode and wooden ships are easily comminuted, ocean cables enveloped in heavy vulcanite remain long untarnished, gold, glass and heavy porcelain survive, all else soon disintegrates and sleeps forever—a slow accretion to the solid diameter of the globe. Over all is constantly descending through the waters like a snow-cloud, showers of microscopic shells, product of the higher strata. At these depths there are no real or chimerical "sea monsters," animal life diminishes in the sea as the depths become extreme. The investigations of Professor Agassiz in the Pacific Ocean show conclusively that there are but few *living* forms below a depth of 1800 or 2000 feet, only minute and peculiarly formed and encrusted animal life can survive at this pressure.

Thus a body deposited on its "watery plains" or in its ferny cliffs, and marked on chart by degrees and minutes of latitude and longitude would be as definitely located, as if sepulchered in mausoleums of granite on mountain side or village vale amid earth's shifting scenes.

Compare the area of the stable and abyssal seas with that of the earth, and its limitless boundaries invite undisturbed repose, subtract from the earth's surface lakes, mountains, marshes, rivers and inaccessible territory, tillable lands for the sustenance of the living, and it leaves but a handful of earth for the myriads that already slumber in its bosom, or the unknown millions that shall live and die hereafter.

That change must come in the matter of the disposal of the dead is certain, that cremation during a third of a century of education and argument is far from acceptance and adoption is patent. Fire is the natural foe and dread of man, incineration can not by any force or play of the imagination surround itself with as pleasing sentiment as ocean burial can. Resolution by *fire* is repulsive to all our nature, no one can come near a natural gas or fuel oil furnace, much less look into its glowing, roaring caverns without being terrorized in its presence, and no persuasion could urge one to remain while the body of their friend dissolved and disappeared in its fury, or even while preparation was going on therefor. Besides this, it is too expensive for general adoption, and its hygiene and utility are still doubtful. The expense of a *single* Sieman's retort in working order, without necessary buildings, is approximately $2000. Sir Henry Thompson's process is more expensive, and Polle's but little less, in the experiments thus far made use of. By Polle's method two hours were required to reduce a body. Sieman's process required fifty-five minutes after the retorts had been brought to their required degree of heat. At the cremation of the body of the late Frances Willard the body was left in the retort *all night* that the "ashes" might cool. This, in part, realizes the expense and impracticability of cremation when it should be applied beyond the experimental stage, and for those few only who, through persistent indoctrination, signified their willingness before death to submit to this form of dissolution. Witnesses to a cremation do not usually become advocates of the process. I asked a mother, three months after she had complied with her son's request to be cremated, and she had carried his body across three States to fulfil the promise, what she thought of it? She quickly dropped her head and an expression of horror was on her face when she looked up to ask me not to refer to it. The complaint of crematory managers is that parties do not even return for the "ashes," and their vaults are overcrowded.

Admitting that the expense of transportation to a suitable wharf and a distant crematory are equal, the further consummation by ocean burial would be far less expensive and less repulsive than cremation. The bidding adieu at the "Gates ajar" on a cleanly wharf, as a clean boat sailed away over the waters, would be far less trying and have a pleasanter memory than such a leave-taking at the sooty door of a crematory, or to hear the final rumble of the clods on the coffin-lid six feet in the cold ground below. Further, the presence of a large crematory plant of say ten or twenty retorts would soon prove a nuisance in a neighborhood, and its location be as difficult to secure as that of a powder factory.

Consider an aggregation of population like New York and vicinity, numbering nearly five millions, and its death-rate of 15 per 1000 or 75,000 deaths per annum—over two thousand per day to be consumed, who could say that retorts, flues and stacks would not soon be clogged? Imperfect combustion would result and noxious vapors therefrom fill the surrounding atmosphere What a battery of furnaces and retorts this would require No pleasing memories could cluster around such a place No wonder that even material Germany shrinks from adopting the experiment, and of its dense population gave only a little over two hundred bodies to the experiment last year

This subject has been presented to marines, travelers, landsmen, to Christian and infidel, and while with all, naturally, death is dreaded and the first suggestion of disappearance by submersion or by any means from the ken of men, is startling and dreaded, at a renewal of the subject after a time for thoughtful reflection they would invariably, as between earth-burial, cremation or ocean submersion favor a thalassic grave As to *incineration* and urn and mantel preservation, fifty years after its revival from babarous methods, aided by all the modern methods of propagating and advancing an innovation, its *non-acceptance attests its failure* The proverbial dread of fire does not apply to water, submersion and disappearance beneath the wave can not have associated with it the horror of disappearance by fire Watery submersion as *immersion* is both a pleasant and a sacred symbol of burial and a new birth or *resurrection* to a large body of Christian believers to whom ocean burial should be a sure surcease from dreaded earth-burial or incineration A large percentage of suicides choose drowning rather than any other form of extinguishment, and prove their preference for a watery grave to plunging into a fiery retort at rolling-mills or Bessemer converters

There can be no very loving sentiment that may cluster around a bowlful of incinerated, gluey bones called "ashes" and summoning to memory a beloved face and form of which they were wont to form a part Thoughts of the positive putrefaction of the loved ones, or how "the small cold worm fretteth the enshrouded form," can not be realized, or how beneath the coffin lid and its "six feet two' of weight of cold clods, rest can not be more sweet, and the form more secure than to be buried in the deep,

> Where the sea flower spreads it leaves of blue,
> That never are wet with falling dew

Religion and sentiment combine to explain why there is no more ready and favorable movement in favor of *burning* the dead

Immortality that is to be had only by preserving a handful of bones or mourning over a mound of clay in God's Acre is indeed nothing much to be coveted "We must be found in the register of God, not in the record of man" The memory of the child or parent can not be less profound for the ancestral body that sleeps somewhere in fatherland, across the broader waters, the site of which they can never hope again to visit Are the 150,000 brave sons, brothers and husbands of our late Civil War, who sleep in *unknown graves* less cherished than those who sleep in "God's Acre" beneath the graven cenotaph? The white capped emerald ripples in our national cemeteries marking the "unknown" indicate just as specifically *where* sleeps a hero and loved one as if they were buried beneath the green of Saragossa or the billows of the Atlantic

We would not be retrograding either in sentiment or sanitation if our seaboard population were not so dense, if we could revive the solitary, stately customs of the Viking chief, whose glory in defeat by death and in departure was to float outward to sea with the tide, reclining, surrounded by his trophies in his crude but gorgeous craft until he was lost in the majesty of the sea, and sank to rest The Columbia River Indians buried their dead by setting them adrift in their canoes with a lighted taper in the bow and watched the light and form go out on the broad sea and down together Thus we are not advocating a custom that is without the sanction of precedent, or one that would conflict with the finer sensibilities of the surviving friends of those who at first *voluntarily* selected this method of burial, as has been done in cremation in the past

It would seem that when ocean-burial is rightly studied, when the abyssal area is considered, the aseptic fluid that will envelop the form, the quiet that rests in ocean's depths,

> When winds were raging over the upper ocean,
> And billows wild contend with angry roar,
> 'Tis said far down beneath the wild commotion
> That peaceful stillness reigneth evermore
>
> Far, far beneath, the tempest dieth,
> And silver waves glide ever peacefully,
> And no rude storm how fierce soe'er it flieth,
> Disturbs the Sabbath of that deeper sea

Comparing the accessibility for all the seaboard area and the economy with other methods of final disposal of the dead, municipalities or may be corporations, would agree to add to the "white-winged fleets of commerce," and the "white squadron of war," the pearly palaces of peace, that would at stated intervals, near enough together to meet the requirements of the district's mortality, sail away with their sacred cargo to deposit it on the watery plains of the abyssal seas when with Byron we would say

> Ours are the tears though few sincerely shed
> When Ocean shrouds and sepulchers our dead

Such steamers should be especially fitted for their work, they should have complete refrigerating apparatus and chambers fitted to receive all the bodies to be carried, these chambers could also be hermetically sealed as "bulkheads," or salt-water compartments, for the conveyance of contagious disease cases, they should be under the supervision and espionage of the municipal or State board of health The wharves should be selected for their accessibility, should be capacious and scrupulously clean, fitting enclosure should secure the sacredness of the area, and within or adjoining might be a small, neat chapel To those who still cherished the exclusiveness of the caste of wealth, rank or family—if death recognized such division—an area might be set aside in the abyssal field by the Geodetic Bureau, and they could be transported in their own or friend's private yachts, with such selected company as they chose, to share the sacred rite and private grief at the watery grave, where

> The free waves kissed her with their cold blue lips
> And then put her to sleep,
> She has a sand pillow and a water sheet,
> And never turns her head or knows 'tis morning

The caskets or containers might be wicker wrought as has been suggested for earth-burial, though fastened on a heavy iron or stone base, they might have fenestrated or latticed sides, or ornamental open work to admit water and favor deep submersion a suitable weight could be enclosed in or near the foot of the coffin, if desired this might be of any heavy non-corrosive material, with which might be a graven or moulded number or merited motto, corresponding to a record kept in the family or State archives for the information of future antiquarians, should islands some time rise "unushered from the seas", where no provision had been made, a heavy concrete of water-lime might fill the lower interspaces and insure descent and submersion If volunteers were not offered, the "Potter's Field' might surely spare its inmates for the early experimental stage and no breach of sentiment could arise to offend the fastidious

That bodies would rise again from the formation of gases, as they do in fresh water, is not to be anticipated, from the fact that the lowered temperature and aseptic medium of submersion would both prevent and lessen further formation of gases It is of record that during the earthquake at Lisbon in 1775, sixty thousand people sank into the sea at once and not one of the dead bodies ever floated to the surface, the water there *now* is only six hundred feet deep, whatever it was at the time of the cataclysm

That funeral obsequies and ostentation are becoming more and more a burden is an economic fact from which many would escape did not the thraldom of conventionalism prevent Church funerals are becoming less frequent, the gorgeous hearse, the solemn, nodding plumes and the slow and stately tread of somber comparisoned horses is giving way to the hurry trolley that ends at the gates to God's Acre The money that is expended for the obelisk and the slab had better provide an endowment and a bed in a hospital for the unfortunate sick, crippled, or defective living The fund that builds a mausoleum for the dead had better build a school or hospital, and the green cemetery-field that is polluted with decay, could in truth be made "God's Acre," when it was given up for park purposes in which could be beautiful *memorial* plats and avenues, fountains, restful grottoes, inscribed settees, chapels with capacious corridors, with limited spaces assigned or purchased, on which might be inscribed in brief the record and memorium of the dead, libraries and art galleries might award or sell similar spaces

Thus there would be no territorial encroachment in hamlet or city, and the forsaken and haunted cemetery would become a place of recreation, retrospection and education for the living Old Ocean would never become crowded, earth would be freer, water would be better, air purer Life and health—the greatest boons of the Giver—would be strengthened and lengthened, and no harm have been done the dead

SOME EXPERIMENTS ON THE VALUE OF CARBID OF CALCIUM IN THE TREATMENT OF CANCER

Demonstrated to the Chicago Medical Society, Nov 2 1898

BY EMIL RIES, M D
PROFESSOR OF GYNECOLOGY POST-GRADUATE MEDICAL SCHOOL
CHICAGO

In the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, July 2, 1898, an article appeared entitled "A Note on the Treatment of Carcinoma of the Uterus," by J H Etheridge, A M, M D, Professor, etc At the start the author states that the idea of curing cancer by means of remedial agents has never found lodgment in his mind, while the improvement in the condition of several cases of uterine cancer under the treatment described in the article seems to him worthy of record Then follows a review of the opinions of various authors on the pathology of cancer Next a description is given of the agent used in the treatment of the cases reported—the carbid of calcium—and the product of dissociation of carbid of calcium with water—the acetylene gas—is dwelt upon at some length, and the question of its toxicity discussed The author then reports that in 1896 he first saw reference made to the carbid of calcium in the treatment of uterine cancer in some medical journal, which reported that some German physician used it in treating cancer of the uterus and the author disclaims all pretense to originality in its use He has forgotten the name of the German physician, and I have been unable to find his article or a report of it in any German publication now accessible to me Now follows a description of the treatment as carried out in the cases reported It consists in first curetting under anesthesia, then cauterization with the Paquelin cautery, irrigation with very hot water if necessary After all this, the carbid of calcium is placed into the cavity thus created and the remaining space is packed firmly with iodoform gauze The use of the carbid is repeated every three days The results of the cases treated in this way are then reported, whereof more later

The conclusions arrived at are the following As to the *modus medendi* of the carbid of calcium the author has no opinion Bacteriologic experiments were made with the carbid and with the acetylene gas with absolutely negative results In a few cases an erysipelatous redness of the sound mucous membrane seemed to follow the use of the carbid, which would suggest that it resulted from an escharotic action of the acetylene gas Now comes the, to me, incomprehensible statement "Whether the acetylene gas destroys the cancer cell by annihilative action or by chemically changing it remains to be seen" And the article closes with the words "One thing seems to be certain, and that is that the carbid of calcium at least postpones death and makes carcinoma patients vastly more comfortable while they do live than any treatment known to the writer"

So far this article With the pathology of the author I am not concerned tonight any farther than to mention merely that as long as carcinoma is not proven to be a bacterial disease experiments on bacteria with carbid or with acetylene gas are, to say the least, premature in this connection The rest of the article however, aroused my interest and after having given it the attention which the subject and the position of the author so fully deserve, I am forced to the statement that I disagree with him and believe myself able to make you disagree with him in practically every principal item of his article

To specify I shall try to prove

1 That the acetylene has no escharotic action

2 That the *modus medendi* of the carbid of calcium is simple and easily understood

3 That the author has utterly and absolutely failed to prove that carbid of calcium postpones death

4 That the carbid does not make cancer patients more comfortable that any other treatment, even if we consider only those known to the writer or those which must be known to him

5 That the carbid of calcium treatment not only is not superior to other methods of treatment of inoper-

able cancer but exposes the patient to some quite unnecessary dangers.

In order to prove these five points we have to look both at the chemic and the clinical sides of the question. To begin with the chemic part, I shall produce here a quantity of acetylene gas by dropping carbid of calcium into a test-tube with water, and I will expose one of my mucous membranes—my conjunctiva—to it. The effect is *nil* and remains *nil*, if I continue the exposure indefinitely. The same experience has been made by the authors who exposed various animals to more or less pure streams of the gas for considerable length of time—several hours—(see Rosemann *Arch. f. exp. Pathol.* 1895). A number of other experiments with the gas injected under the skin or into the circulatory system prove that the absorption of large quantities is an entirely indifferent affair.

To prove that I am dealing here with acetylene gas, I will light it and you see it burn. Even without lighting it, we notice one thing which is important and is entirely omitted from the article mentioned, viz., the production of heat during the dissociation of the carbid. This development of heat I can demonstrate best by dropping small quantities of water on the carbid. You see the water almost instantly turns into steam. In other words you can, by adding water in small quantities to the carbid, produce the temperature of boiling water. The same conditions prevail exactly in the cancerous cavity of the uterus, where the serum gains access to the carbid by slowly oozing out of the wounded organ. If you take the vessel in which you make this experiment in your hand you will feel that it becomes hot, and if you continue you will prefer not to hold it any longer in your hand. If however you throw the carbid into a larger quantity of water, the heat is much less noticeable, and you can place your hand in the water without noticing any escharotic effect from the acetylene gas developing all around your hand.

In order to get some idea how a patient would feel under this treatment, and in order to find out how high the temperature would rise on trying the dissociation of the carbid on the surface of the body, I place some carbid on my hand without water. No effect. The minute quantities of moisture adherent to the surface of the body are not sufficient to produce dissociation. So on September 4, I tried adding a drop of water on my left upper arm, where you still see the scar and the pigmentation. Immediately I noticed a smarting pain which stopped soon after all the water had been used up in the dissociation. When I then removed the remnants of the carbid I expected to find a simple burn, an erythema or a blister. But I found something else. Instead of the expected blister I found a soft grayish slough surrounded by a red area. That was evidently not due to the heat but to something else, and this something is more important, though it is entirely omitted from consideration in the article mentioned.

Let us look for a moment at the chemic formula which represents the changes discussed here. We have

$$\underset{\text{Carbid of calcium}}{\mathrm{C\,Ca}} + \mathrm{H\,O} = \underset{\text{Acetylene}}{\mathrm{C\,H}} + \mathrm{CaO}$$

Now CaO is an old acquaintance—quicklime—and what effect quicklime has on human tissues is known to the bricklayer as well as to the fake cancer specialist who advertises "cancer cured without knife." The medical profession generally has abandoned the use of this substance be it in its original condition or in the various disguises in which it was put up as Vienna paste, etc. Most deservedly so, because quicklime forms a soft slough, because it does not limit its own action by producing a firm impermeable layer, as for instance the strong acids do. Therefore its effect is uncertain as to the depth of the slough produced. The same reason exists why the carbid of calcium can not be used for checking an active hemorrhage. I sacrificed two dogs before I had gained the experience that the heat produced by the dissociation of the carbid with the blood from the cut surface of the lung or of the liver was a less prominent feature than the softness of the slough which allowed the blood to well out again and again. In one case the dog succumbed to the hemorrhage from the lung, and in the other case the hemorrhage from the cut surface of the liver had to be checked by the actual cautery to save the dog from immediate death. Let us keep this in mind when we turn to the clinical side of the question.

To sum up the chemic part of the question: carbid of calcium brought in contact with water is dissociated under the production of considerable heat into the indifferent acetylene and into quicklime, which in its turn immediately becomes slaked lime. This process again is accompanied by a lively development of heat. The therapeutic effect of carbid of calcium brought in contact with any moist surface of the body is nothing but the well-known effect of quicklime—a remedy long abandoned and for good reasons.

But—and now we turn to the clinical side—how about the clinical facts? Do they not prove the treatment superior to any other? By no means gentlemen. The first case reported has been under observation from December, 1896, till May, 1898. The patient first noticed her symptoms six months before she came for treatment, say June, 1896. She has, therefore, been living with her cancer 23 months. Case 2 has had symptoms since February, 1897. The last report of her condition is dated May, 1898. Total 15 months.

Do these two cases prove that carbid of calcium postpones death? I fail to see that such a conclusion would be warranted, for the very simple reason that a great many cases of cancer of the uterus live that long and much longer without any treatment or after other palliative methods of treatment have been followed. I have picked out at random from my small collection of inaugural theses of German universities a pamphlet by Ditges, which reports a number of cases of cancer of the uterus which refused treatment or were treated with the curette or the Paquelin alone, and the time of death of which was ascertained from the official records kept by the authorities. This little book shows numerous cases where death did not occur until three or more years after the first symptoms developed. And this is not the only book which contains such records. A. Martin, for instance (*Pathol. und Ther. d. Frauenkr.*, 1895), records a case which lived five years without radical operation. In fact, every surgeon who has had some experience with cancer of the uterus is most willing to acknowledge that the prognosis as to the duration of the disease is extremely uncertain. The two cases in the article mentioned do not present any extraordinary length of life after the first symptoms, and therefore do not prove that carbid of calcium postponed death.

The article fails to prove that the carbid of calcium treatment makes cancer patients more comfortable than any other treatment. First, it is a very common experience that after incomplete operations or after simple curettement or use of Paquelin cautery with various powders or ichthyol or chlorid of zinc treatment the patients are very comfortable for months, many so much so that they consider themselves cured. It must be remarkably bad luck on the side of the author of the article mentioned, if he has never seen such results after treatment with the curette and cautery. I refer to this treatment specially, because it certainly is one known to the author of the paper mentioned as is shown by his report of the treatment of those two cases which included the curette and cautery. And this is the second reason why I can not accept his paper as conclusive evidence in favor of the carbid of calcium.

The cases described have not been treated with the carbid exclusively, but in addition to it with methods which, in the hands of other surgeons, have given fully as good results as those described in the article mentioned. If we combine treatments in this way, conclusions from the results can not be relied upon in a scientific discussion. A third point is to be mentioned—the age of the patients. One is 69 years old, the other 53. It is by no means uncommon to find a very slow progress of cancer in women of that age. A fourth point and a very important one is that, according to the author's own report, both cases give very palpable evidence of a progress of the disease. Case 1 reports May, 1898, that she was "having an occasional bloody grumous discharge from the vagina coming with a sort of gush as though the pent up fluid—about a dram in amount—was suddenly released, that it had an odor like old fish, not like cancer, that it had been going on at intervals for a few days, for about a month." It takes only a very limited experience with cancer to understand what is going on here. The cauterized cervix has contracted, the uterine canal has been strictured, carcinoma is spreading, and the discharge from it accumulates above the stricture. No report of a bimanual examination is furnished. The report that the vagina shows no solution of continuity does not prove anything as to the condition higher up. It is a very old experience that cancer of the cervix frequently spreads upward and outward, leaving vagina and external os almost intact. In Case 2, the treatment was begun July 30, 1897. In February, 1898, patient became ill with a chill and pelvic pains. On the eleventh day an abscess suddenly discharged through the small opening in the vault of the vagina. What has happened? Either a pyometra or an extrauterine abscess has formed, as is seen so frequently in the course of carcinomatous disease, and the report that the vagina shows no solution of continuity affords no certainty whatever as to the spreading of the disease, especially as again no bimanual examination is recorded. Are these the superior results which form the pride of the article? In the first case hemorrhage and odor are present, in the second a septic condition somewhere around the uterus. So the carbid of calcium has not prevented either of them.

We have to say a few words concerning the dangers lurking in the carbid. There is first the danger of the slough extending to an undesirable depth, producing perforations which make the patient's condition worse than before. Secondly, it is possible that some of the quicklime gets to points where it is not wanted and produces unnecessary injuries—a danger which is not very great in the hands of a manipulator of any experience. Thirdly, it must be mentioned that acetylene gas mixed with air in a pretty wide range of proportions is highly explosive and that copper or brass instruments, as sounds, etc., must not be used in this treatment, because copper forms an explosive combination with the acetylene gas.

To conclude, I wish to state why I read this paper here, why I make these demonstrations. It is a constantly recurring complaint of the gynecologists that the cases of cancer come into their hands when it is too late, when no operation, be it ever so extensive, can save them. It is also a constantly recurring complaint that the cases which are sent for operation have been under internal or topical medication for a number of weeks or months before the medical adviser comes to see that his treatment availeth naught, and that not until then he hurries the patient off to the surgeon—who then gets the blame if the recurrence follows his radical endeavors all to rapidly. Now I fear, and from the questions which have been put to me from the ranks of the general practitioners, I have good reason to fear that a report like the one in the July number of the JOURNAL, which I have tried to refute here, is only too apt to create new confusion, to lead to more tinkering on the cancerous cervix, *and to jeopardize numbers of lives which could be* saved if they were subjected to the only proper treatment we know of at present—the extensive radical operation. It is not the fault of the author of the article in the July number if the opinion has gained ground that the carbid of calcium promises to effect a radical cure. He disclaims that expressly. Nevertheless, I know that this opinion is spreading among practitioners.

As to the use of quicklime in the shape of the carbid of calcium in cases of inoperable cancer, centuries of surgical experience have given a verdict which does not encourage new experimentation. The carbid of calcium will henceforth assume its place among the worthless and dangerous remedies for carcinoma.

100 State Street.

SOME CAUSES OF WRY-NECK

Presented to the Section on Neurology and Medical Jurisprudence at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY C. M. HOBBY, M.D.
IOWA CITY, IOWA.

The object of this paper is to report facts, leaving the consideration of their bearing upon the condition commonly known as wry-neck, for the future. The writer does not believe that disturbances of the nervous equilibrium, which in a few isolated cases are relieved by successful treatment of peripheral irritation, are to be considered as the result of that special irritation. As in epilepsy we occasionally have apparent cure, by correction of the refraction, or by some form of treatment of so-called muscular imbalance, as well as by operating for phimosis, and as the same measures have frequently been followed by the cessation of chorea, so in the following instances torticollis has recovered, after the removal of ocular conditions, apparently little more likely to have exerted a causative influence in its production. That there is nothing original in this suggestion, is shown by a remark in Vol. vii, p. 557, of the "International Encyclopedia of Surgery," edited by Ashhurst: "Young, Lovett and others have shown that there is sometimes a curious relation between ocular defects and torticollis" (Referring to Trans Amer Orthopedic Association, 1891, Vol i, p 46, Vol ii, p 230) I have not access to these reports

The first instance in which I was able eventually to predicate ocular influence in the cause, occurred in 1893, in a boy of 15, whose deformity had existed for several years, and in whom the muscular contraction was apparently structural There was no spasmodic element, the abnormal position was constant, the head drawn well toward the right shoulder Finding ing that any forcible correction was attended with diplopia, I was led to the discovery that paresis of the left inferior rectus existed, and a subsequent tenotomy of the superior rectus led to a gradual but eventually complete recovery from torticollis

The second case, P N,, male, age 12, was seen in June, 1896, and gave a history of impaired vision, and asthenopic symptoms existing for more than a year preceding Three weeks before examination, he had severe headaches, followed by nausea and vomiting, coincidentally with diplopia As he got better the head became twisted and drawn toward the right shoulder Examination showed 8 degrees of esophoria, each eye, also a low grade of hypermetropic astigmatism with squint apparent at times In this case correction of the refraction and "ocular gymnastics" brought about recovery in two months

DISCUSSION

Dr D R **Brower** of Chicago—I would like to ask Dr Hobby one or two questions about his wry neck cases in regard to this matter of a possible reflex origin in connection with these several conditions that have been mentioned here I would like to know something about the neurotic condition of these cases that Dr Hobby has described, and in which his treatment seems to have been so remarkably successful It is my impression that in the care of these and of similar cases, the condition of every peripheral end organ should, if possible, be ascertained, and the errors if any be found, corrected , but I wish to emphasize what Dr Norbury has said, and what my friend Dr Gradle,, has also emphasized in his paper that after all it is the constitutional condition that demands our most careful attention End organs that are out of order must be put in order I care not whether it is a defect in the eye or in the nose, wherever there is a peripheral end organ out of order, the derangement of which can be corrected, it should be corrected But I think there are very few cases of wry neck, of headache, or any other condition of the nervous system similar in kind, that are altogether and entirely due to some such disturbance of the peripheral nervous system as has been so ably described in those two interesting and valuable papers I desire to emphasize the necessity of finding out the constitutional state , and herein lies the difficulty in the treatment of these cases of headache

Dr C C **Hersman** of Pittsburg—With reference to Dr Hobby's paper, the author has had better success in treating wry necks than I have Sometimes these wry necks will continue for months, however greatly improved Occasionally we may make a mistake in the diagnosis of wry neck A patient of mine, a child of three years, I diagnosed as suffering from meningitis Another physician however, a week later diagnosed the condition as wry neck I was not much relieved by the other doctor's opinion The trouble continued until about the thirteenth day, when the child was very much better, but I still told her mother not to be hopeful On the fourteenth day the child took suddenly worse, and a very severe meningitis developed, followed by death

Dr **Hobby**—I especially disclaim the belief that peripheral irritation was the fundamental cause in the great majority of those cases which were relieved by the removal of the peripheral irritation, such as the occasional relief of epilepsy by treatment of ocular conditions and matters of that kind, the operation of phimosis, etc We used to be taught concerning the immediate cause and the remote cause , and we used to think that sometimes the peripheral irritation, added to the constitutional condition, would produce the given difficulty It was as exceptional instances that I reported these two cases of wry neck in which the ocular cause seems to have been extreme I do not believe that many others of these cases will be relieved in the same manner I simply wished to bring the attention of the Section to the fact that wry neck was due to ocular diseases in some cases

---

DO WE DRAIN TOO FREQUENTLY IN PELVIC SURGERY?

Presented to the Section on Obstetrics and Diseases of Women at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY W H HUMISTON, M D
Associate Professor Gynecology in the Medical Department of Western Reserve University Gynecologist in Chief St Vincent s Charity Hospital Consulting Gynecologist City Hospital
CLEVELAND OHIO

Since the publication of a few cases in the February, 1898, number of the *Medical Council*, I have had a series of pus cases, some of which were of such a serious nature, and of such a virulent infection that a most thorough test of non drainage of these cases has been made, and the results in all have been satisfactory and beyond my expectation

I am fully alive to the fact that there must be a certain (small) percentage of our cases in which death can not be averted whatever the technique may be, but on the other hand I am assured from the careful study of my own, and the cases of other surgeons, during the past five years, that the mortality in pelvic surgery has been kept too high, *partly* by the indiscriminate use of some form of drainage Lawson Tait says, "That there is an inevitable mortality in abdominal section I think is certain " He bases this "inevitable mortality" rate between 3 5 and 5 5 per cent upon a series of 1350 consecutive operations

For years I had relied upon the glass drain as one of the most necessary adjuncts to my technique in pelvic surgery In all cases where there have been extensive adhesions separated, and large areas of oozing peritoneal surfaces left, I have been most careful to thoroughly wash the peritoneal cavity free from all débris, and held it especially important to use a glass drainage tube for twenty-four or forty eight hours However, my records show that during the past four years only one case outside of my own private hospital was drained in this manner

It was not that the cases were of a less serious nature, but they were not drained because I feared a subsequent infection of the peritoneum through unskillful handling and dressing of the tube In such cases, then, it was a choosing of the lesser evil when I closed the belly without supplying an artificial drain I have reached this confidence in the closing of the abdomen without drainage through a long series of cases

A widow aged 23 years, had one child and had had one miscarriage Tubercular tendencies inherited from both father and mother Contracted gonorrhea one year previous to her admittance in City Hospital Operation December 21, 1894 Double pyosalpinx with general pelvic adhesions Uterus held in retroversion by inflammatory products Pelvic organs and intestines were covered by miliary bodies, closely resembling, in macroscopic appearance, tubercular areas (pathologist failed to report his examination) Considerable oozing The peritoneal cavity was carefully cleaned and dried and the belly was closed without drainage This is only one example of a number of early cases in which I felt compelled, on account of unfavorable surroundings and conditions, to close the peritoneal cavity without the use of a drain, a measure inconsistent with my teaching and usual practice of that time The uniformly happy result in each successive undrained case in the 1894 series was very unexpected

My mortality rate has been decreased almost *pari passu* with the declination of the rate of drained cases In 1894, 71 per cent, drained, 14 per cent mortality, in 1895, 36 per cent drained, 7 per cent mortality, in 1896, 33 per cent drained, 6 per cent mortality, in 1897, 4 33 per cent drained, 4 66 per cent mortality And so far in 1898 I have drained no case, and the mortality rate is as low as 3 per cent , in fact, to be exact, 2 8 per cent

During the year of 1896 the glass tube was supplemented by gauze in almost every case in which the glass was used In these cases the dressings would not be disturbed until the expiration of the first twenty-four hours The tube would then be removed, and the gauze would remain undisturbed for three or more days This was merely an expedient to avoid frequent dressings and so lessen the danger of infection During the past year, however, I not only discarded the glass tube, but also any former conception of the values of all drains in the ordinary cases of pelvic surgery, so that the 4 5 per cent of cases which are counted as drained during 1897, really only represent the cases in which gauze was used—either in the form of the Mikulicz apron, or of simple strips—for the purpose of controlling such oozings which I feared would be too copious for the peritoneum to care for I feel that this is yet too high a percentage of open wounds, and confidently hope to almost minimize the number during this present year

In those cases in which I know the peritoneal cavity is contaminated, I thoroughly wash out the pelvis with a saline solution, using it for the purpose of dilution of infection rather than with any idea of antiseptic worth, and close the wound, leaving within the peritoneal cavity as much of a fresh salt solution as it will contain This radical change of opinion in the management of my cases has been slowly brought about by close observation and study of my clinical cases I have been reassured, however, in my position by the reports of different bacteriologic researches, such as that from Dr John Clark of Johns Hopkins Hospital, wherein particularly the dangers of drainage are well defined This report was published in the *American Journal of Obstetrics*, in April and May, 1897, and should be carefully considered by every abdominal surgeon I append a few illustrative cases

GENERAL AND PELVIC PERITONITIS

Suspension of the uterus was performed upon Mrs S in December, 1895, in Philadelphia, and in January, 1896, a second operation was performed for a ventral hernia

In February, 1897, when she had been seven months pregnant, she began with severe labor pains The doctor in attendance removed per force, a dead and macerated child She developed thereafter a very severe form of puerperal fever

On May 11, 1897, when I first saw her, the exudate extended midway to the umbilicus No areas of softening could be found She was very much reduced in general health

On July 12 she was operated upon at the City Hospital Throughout the upper two thirds of the old scar were found very dense omental adhesions, and about the lower angle, the anterior uterine wall, near the fundus, was adherent over a space of nearly three inches square The uterus was exceedingly large and very dense The pelvic organs were matted together with inflammatory exudate The uterus and its appendages were removed and an effort was made to cover as much surface as was possible with the remnants of peritoneum left in the pelvis The belly was closed, and the patient passed through to a rapid convalescence

RUPTURED TUBAL PREGNANCY

On July, 27, 1897, at my hospital, Mrs H was operated upon The right half of the pelvis was completely shut off from the general peritoneal cavity by adhesions between omentum, intestines and belly walls This formed a pocket which was filled with partially organized blood and lymph, and in the bottom was found a large hematoma of the ovary and the ruptured tube The left appendage was normal Adhesions were carefully separated, the vessels were tied, the pelvic cavity was thoroughly cleansed, and the belly was closed She left the hospital on the twenty fifth day in good local and general condition

GONORRHEAL PYOSALPINX

At Akron City Hospital, on July 31, 1897, I operated upon a case for Dr Cleaver Case had had recurring attacks of pelvic peritonitis until she was very much reduced The pelvic organs were closely matted together by adhesions of both old and recent date Bleeding and also general oozing was free Both tubes contained pus, and the ovaries showed evidences of chronic inflammation After the pelvic cavity was wiped dry and clean by strips of plain gauze, three pints of salt solution were poured into the belly, and the wound was closed Dr Cleaver reported that her progress was rapid and favorable

Mrs K conceived in June, 1897, miscarried in October, and was admitted to the City Hospital in the first week in December A diagnosis of double pyosalpinx was made, and the operation was performed on December 11, 1897 During an examination by several of my students, just immediately preceding the operation, the left tube was ruptured On opening the belly it was found that the pus had escaped into the pelvic cavity, but had been hindered from contaminating the general peritoneum by a wall of adhesions The appendages were removed, and the pelvis was cleaned by mopping the cavity out with gauze strips and irrigating with saline solution Just before closing the belly 2½ quarts of salt solution were poured into the peritoneal cavity From cover slips a staphylococcus was found, together with what was thought to be the gonococcus A culture in bouillon was obtained, but unfortunately no differentiation was made

In this case the temperature after operation never reached a point above 101⅗, and after the tenth day was noted as normal both at morning and evening She was dismissed on Jan 3, 1898 – twenty three days after operation

AN OVARIAN CYSTOMA (SUPPURATING)

Mrs P , a widow, aged 50 years, has borne two children, the youngest of whom is 17 years of age Her first menstrual period occurred when she was 18 years old They recurred regularly and lasted usually five days, they were unattended by pain, and the quantity of the flow was small

Since the birth of her last child, however, she has suffered severely with dysmenorrhea, and her general condition has been much impaired The labor was long and difficult, and shortly after the puerperium, she noticed a prolapse of the uterus which eventually became complete Her family history is good, and there is nothing in her general previous history which bears upon the case On May 20, 1895, she first noticed an enlargement of the belly in the left iliac region It continued to increase, making unusual gains at irregular intervals, until the latter part of March, 1897, when the tumor steadily and rapidly increased About this time she began to have repeated attacks of chills followed by fever, great tenderness throughout the entire abdomen, and emaciation with loss of strength The diagnosis of an abdominal tumor was made a year ago, but the patient refused then to permit an operation to be made I first saw the case on June 13, 1897, in consulation We found the patient in great distress because of the interference with the respiration and the heart's action Her temperature was 103, and pulse 130 She was anemic and greatly emaciated Edema of the lower extremities extended above the knees The tumor completely filled the abdominal cavity, pressing the xyphoid outward at a right angle to the sternum and widely flaring the lower ribs The circumference of the belly at the umbilicus was forty five inches, from the xyphoid to the symphisis pubis twenty three inches, and from the free end of the twelfth rib to the middle of Poupart's ligament of the opposite side thirty and one half inches A complete prolapse of the uterus was found Her general condition was very poor Her temperature when she was admitted to my hospital, June 16, 1897, was 100 degrees, pulse 130 and very weak Examination of the urine showed a very small daily quantity, with a large amount of albumin, renal cells, and granular casts The case was not a promising one for radical operative measures She had reached such a point in her suffering that she was willing to submit to an operation, preferring death to an existence accompanied by such extreme discomfort

We operated after five days of preparation, in which laxative baths, restricted diet, drinking of hot water, and strychnin were used On June, 13, through an incision in the linea alba, I tapped the cyst and removed its walls Sixty four pounds of fluid were drawn off There were no adhesions to the anterior wall, nor to the small intestines The posterior wall of the cyst was intimately adherent to the omentum To both sides, but particularly the right side, the adhesions to the lateral abdominal walls were both dense and vascular A great deal of organized lymyh was found between the stomach and the apex of the cyst All adhesions were broken, and immediately the bleeding points were ligated It became necessary to remove the entire omentum A great surface of the lower curvature of the stomach was adherent to the fundus of the cyst, and a mass of inflammatory exudate was removed between the cyst and the lower surface of the liver The pedicle was three inches in length and about the size of the little finger The patient's condition was very precarious The pulsations in the radial arteries had ceased for a time, but quickly responded to the application of a large quantity of hot saline solution into the belly cavity After thorough washing, four quarts of the normal physiologic salt solution, at a temperature of 114 degrees F, were left in the peritoneal cavity, and the incision was closed *without drainage* The pulse steadily gained in strength and fulness, and became less rapid as the fluid was absorbed, and contrary to expectations there was no interruption to a very rapid convalescence Her condition did not even warrant an attempt at suspension of the uterus In truth, we made haste to get her off the table alive She was dismissed in four and one half weeks from the day of operation We found a prolapsed right kidney and an attempt to replace the prolapsed organs was made Failure to reduce them was evidently caused by adhesive bands

On September 18 the family physician reported that he found the patient working hard at the family washing She had gained twenty five pounds, and was free from all aches and pains, excepting at times a dragging in the region of the prolapsed liver Microscopic examination of the mass bounded by the liver, stomach, and fundus of the cyst showed simply a mass of organized lymph, although macroscopic appearance was that of malignant degeneration The weight of the tumor and its contents was seventy two pounds, and the patient after its removal weighed not more than eighty five pounds The tumor was a simple glandular ovarian cyst with suppuration

DOUBLE TUBO OVARIAN ABSCESS (GONORRHEAL)

Miss A, aged 18 years, gave the usual history of gonorrhea and its sequelæ On March 8, 1898, with great difficulty I removed both uterine appendages—they were tubo ovarian abscesses The pelvis was roofed in by inflammatory exudate, and the appendages were deeply imbedded In their removal pus was spilled Much of it was caught on the gauze strips with which I always protect the general peritoneal cavity, but the structures in the pelvis were thoroughly covered The pelvis was irrigated with hot saline solution and the belly was closed with two quarts of salt solution remaining

In the bacteriologic examination of the contents of the tubes and ovaries, a *virile* staphylococcus was found A severe form of ether pneumonia was first noticed eighteen hours after operation Complete hepatization of the two lower lobes of the right lung followed Barring this accident the convalescence was normal The patient was dismissed in four weeks Later she reported herself in good general health

In conclusion I would again affirm the opinion that almost, if not every case of pelvic surgery requires no drainage That even those cases in which there is a general infection (the cases which make up largely the totality of those designated by Tait as the "inevitables") can not be benefited by drainage

Let us then recognize more fully both the expediency and the dangerous factors in the use of the drain and so lower to a minimum the present high rate of mortality, that even the best of our operators yet attain

122 Euclid Ave

From the Little Red Schoolhouse—A school teacher at Port Allegheny N Y, the other day received the following note "My boy tells me that ven I trink beer der overcoat vrom my stummack gets to thick Bleese be so kind and don't interfere in my family affairs "—*Life*

THE IMPORTANCE OF THE STERILIZATION OF FOODS AND DRINKS BEFORE THEIR INGESTION

Presented to the Section on State Medicine, at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY AUGUSTUS P CLARKE, A M, M D
CAMBRIDGE MASS

In presenting this subject for consideration it has not been so much my aim to cover all the phases which the question involves as it has been to bring before the Section that portion of the theme on which I have some definite conclusions All will admit the importance of bacteriology and will not fail to appreciate the wonderful results achieved

Professor Virchow, in his address on "The Continuity of Life," before the general session of the Twelfth International Medical Congress at Moscow, spoke of the gradual progress that had been made by the use of the microscope, and said that its evolution had given rise to a new impulse in the march of medical science toward the development of biology He attributed our indebtedness for the marvelous working of that instrument to Ehrenberg of Berlin Prior to the achievements, the results of the study of Ehrenberg, as published in his "Uber die Infusionsthierchen als vollkommene Organismen," all the ultimate aspects relating to the nature and character of the various histologic elements and bacterial agents were shrouded in the deepest mystery

One of the most striking illustrations of disregard by the public of proper precautions that should have been taken for protection in the use of milk, which is subject to infection, occurred in Cambridge in the summer of 1896 Though typhoid fever is a disease that has been more or less endemic in the metropolitan district, the cases are usually sporadic, and in their manifestation are for the most part of the milder type During the months of August, September, and October of 1896, an epidemic of that disease raged with unusual severity For the month of July of that year the number of cases reported by the various physicians in practice was 19, the number in August was 84, in September 56, in October 43, in November 23, and in December 14 The number of cases reported for the six months immediately preceding was as follows in June 4, in May 3, in April 0, in March 3, in February 3, and in January 3 The local board of health, aided by an agent of the State board, in endeavoring to ascertain the cause of increase in the number of cases that occurred, succeeded in tracing their appearance for the most part to families supplied with milk by one particular dealer Careful inspection of the dairies did not reveal any irregularity in the conduct of the business There was, however, evidence tending to show that a workman who had been indisposed with what seemed to be a mild attack of typhoid fever, had been allowed to wash the cans The total number of deaths from typhoid fever in Cambridge during the year of 1896, omitting the non residents, was 30, while the number in 1897 was only 11 a fraction over a third of the number in 1896 The number of cases of typhoid fever reported in 1897 was as follows in January 5, in February 5, in March 1, in April 1, in May 7 in June 6, in July 5, in August 10, in September 15 in October 21, in November 12, and in December 14—making a total of 105 cases, or 150 cases less than in 1896

In this connection there were some personal observations worthy of note In a number of families no attacks of typhoid fever occurred, though the members of the families were free users of milk For a long time I have endeavored to impress the importance of sterilization of milk before using it In some few instances I have succeeded in bringing about a reform

In one family of six persons the only one who suffered from an attack of typhoid was a lad of 16 years, who insisted upon taking cold and unsterilized milk He was accustomed to indulge freely in the use of uncooked milk while the rest of the family, receiving the milk from the same source, though not using it until after it had been properly prepared, escaped altogether In my own family during the year of the typhoid epidemic above referred to (1896), the milk supply was from the source ascribed as the cause of the increased number of cases, though none of the family suffered except the domestic, who preferred cold uncooked milk She frequently drank a glassful at a place of retail, whose supply, it is said was obtained from the same dealer, as was that supplied to our own household She suffered from clearly defined symptoms of typhoid A son and a domestic of a physician not far from my residence were among those who during the epidemic partook of the milk before it was sterilized and were sufferers from typhoid The milk was from the same milkman

In 1894 eight cases occurred in rapid succession among persons taking milk from the same milkman The trouble originated at a farm in Bedford whence some of the milk was brought Some time previous to these attacks of typhoid, a number of cases occurred in which the trouble was traced to another dealer's milk Milk is often an almost indispensable article of diet in the treatment of many forms of disease and in the after-treatment or management of surgical cases For this reason I have frequently relied upon the advantages of a milk diet

In 1893 the number of cases of typhoid reported in this city was 92, an increase of 12 from the previous year Males seemed to have furnished the larger number (53) It may be, says the reporter, that in taking meals away from home more frequently than females they have exposed themselves to the danger of introducing into their systems the morbid germs This statement as touching upon our duties as medical advisers should be regarded as most significant

There can be now no question intelligently raised as to the infectious nature of typhoid fever The agency of the bacillus of Eberth is undoubtedly the cause Water for domestic purposes may become contaminated by the presence of typhoid germs, as was well illustrated in the outbreak which occurred in the Borough of Newport, Isle of Wight, in 1894, when some 436 cases out of a population of 10,512 were observed

Some writers have regarded Pasteurization as sufficient for protection against micro-organisms This method of proceeding is effected by subjecting liquids for about half an hour to a temperature of 160 degrees F before their introduction into the system Such a limited treatment will not always prove adequate for complete protection against the ingress of bacterial elements

The temperature should be carried to the boiling point, and maintained there for some minutes lest the spores of many of the pathogenic organisms escape destruction A convenient process of sterilizing drinking water is found in the use of bromin Ammonia will serve to neutralize this chemic agent Schumburg uses 0 2 c c in a solution as follows water, 100, bromin, 20, potassium bromid, 20, for each litre, and then neutralizes it with an equal amount of 9 per cent ammonia

Some waters require an increased amount of bromin to overcome the ammonia which it contains I have tried this and have been pleased with the results, especially when it has been necessary to use water very freely in a case of prolonged illness and when objection is raised on the part of the patient to the use of boiled water The taste is not disagreeable from the presence of the slight amount of bromin salts

Mention of this formula is made in THE JOURNAL, vol xxviii, page 655 Professor Vaughan, in his communication to the Congress of Demography, in London, 1891, stated substantially that milk had often been diluted with water containing germs of typhoid fever, and that the prevalence of the disease had been traced to milkmen's supply The same author makes mention of 138 epidemics of typhoid fever, 50 tabulated by the late Mr Ernest Hart of London, 88 collected by himself All these outbreaks were due to a specific pollution of milk Mr Hart had made record of fifteen epidemics of scarlet fever, and Professor Vaughan had found data of 59 others, making a total of 74 epidemics that had occurred through the medium of contaminated milk Reference again to Dr Kennedy's paper read before the American Public Health Association, 1896, shows that of 138 epidemics of milk typhoid, 74 of scarlet fever and 28 of diphtheria—a total of 240 epidemics —187 have been noted by English writers and 31 have been described by American observers The English and the Americans have been much behind the nations of the continent of Europe in the use of the means for protection against contaminated foods and milk In the hotels and restaurants of Mexico I found that hot or boiled milk, either through custom or for sanitary purposes, was freely used The freshly prepared tortillas and the hot tomales impregnated with pepper could be partaken of at any time with the least possible danger from infection

The contraction of tuberculosis from milk supply is another subject that has engaged the attention of state authorities The reaction to the test of tuberculin in cattle showing suspicious symptoms of the disease has proved most helpful to the government in taking measures against the use of contaminated meat and milk Cases have been reported in which a cow, apparently in good condition, reacted to the test of tuberculin, and after being slaughtered showed evidence that one or more portions of the lungs were in an advanced state of tubercular degeneration A cow that is well fed and housed and has had but little exercise may prove to be affected with tuberculosis without presenting any manifest symptoms of such disease

In my own practice a number of interesting facts have been noted Some years since, before the public authorities had become aroused to the possible dangers of milk and meat supply, a young man of good family history was taken ill with tuberculosis He had been very fond of raw or fresh milk Some few years after his marriage his symptoms became worse, from which he succumbed The younger o his two children was the next victim His wife whose parents and ancestors on both sides were of good health and of long life, was the third to be attacked In the same house and mingling with the same family, her brother's child was seized with a fatal attack of tubercular meningitis The next patient was the mother of this last child (living in the same family) The ancestors of this last patient were noted for their unusual vigor and longevity I should state that the older of the two young children of the father who died was not nursed by the mother, but was fed from the bottle Until the child grew to a considerable size she continued the use of milk, and seemed to insist, as her grandmother said, upon her food being of a temperature that would almost scald any ordinary child to take This desire on the part of the child, according to our present understanding was her salvation Her growth was rapid and her physique became most excellent The distinguished consultant called in at the time of the occurrence of the various cases, remarked that the contagionists would claim in these cases that they were the result of the communicability of infection, though he at that time, thought it best to wait until more facts were brought out before an expression of opinion should be made Attacks of scarlet fever and diphtheria should be especially guarded against Milk is no doubt often the medium for the transmission of the germs

There are some well-recognized articles of food whose treatment should be most carefully studied Everyone knows how frequently are seen bread, and other foods or eatables, that have been more or less exposed to dust laden with germs and to various forms of exhalations, sold to customers and consumed by them without the slightest regard being paid to the dangers incident to such contamination All such articles should be subjected to the purifying action of heat at varying degrees of temperature and at intervals according to the length of their exposure, their susceptibility of becoming the vehicle for transmission of germs and the uncertainty of the sources from which they have been derived This should be especially observed whenever a zymotic or contagious disease appears among children or occurs in a family of several persons

The boards governing the public water supply may be attentive to duty, they may use all reasonable means to guard against its pollution and may resort to the best methods for its filtration still this great commodity when thus treated will at times be far from innocuous, as the records of repeated epidemics have shown The application of heat at 170 degrees, or at the boiling point for some minutes, until all germs or micro organisms and their spores have been destroyed, will overcome the dangers from imbibing such waters and will preclude the necessity of having to resort to the use of spirituous liquors as a substitute

Examination of facts in regard to the manner in which the meat-supply may be secured leads to the conclusion that all such articles of diet should be thoroughly sterilized before they should be ingested (*Boston Med and Surg Jour*, vol cxxxviii, p 282) It is too much, says a writer, to expect that when only one or a little more of the thoracic lymph-glands of an animal which has been slaughtered for food has been found affected with disease, the entire portion of the meat should be thrown away Disease, as it has often been shown, may be restricted to areas or foci near the stomach to a small part of the liver, or to a limited section of a lung, in such cases the inspectors may not condemn the meat as unfit for food The question will no doubt be soon brought before some of the State governments for determining what should be the proper course to pursue in dealing with such cases It has been reported that the flesh of at least one half of the animals which have reacted to tuberculin has been found on postmortem to be affected only to a limited extent

To enforce rigid inspection of animals and then to prevent the use of all meats as food when in any way affected, without regard to the extent of the disease would result in an unnecessary loss to a State and in an unwarranted waste to its inhabitants Persons are not infrequently appointed as inspectors who have no practical knowledge of the duties of such a trust If the races are to continue to be consumers of meat as heretofore the safest course for a family or person to pursue is to see to it that all meats, in whatever form they may be presented or from whatever source they may be delivered, are so sterilized as to destroy all bacilli or other micro organisms

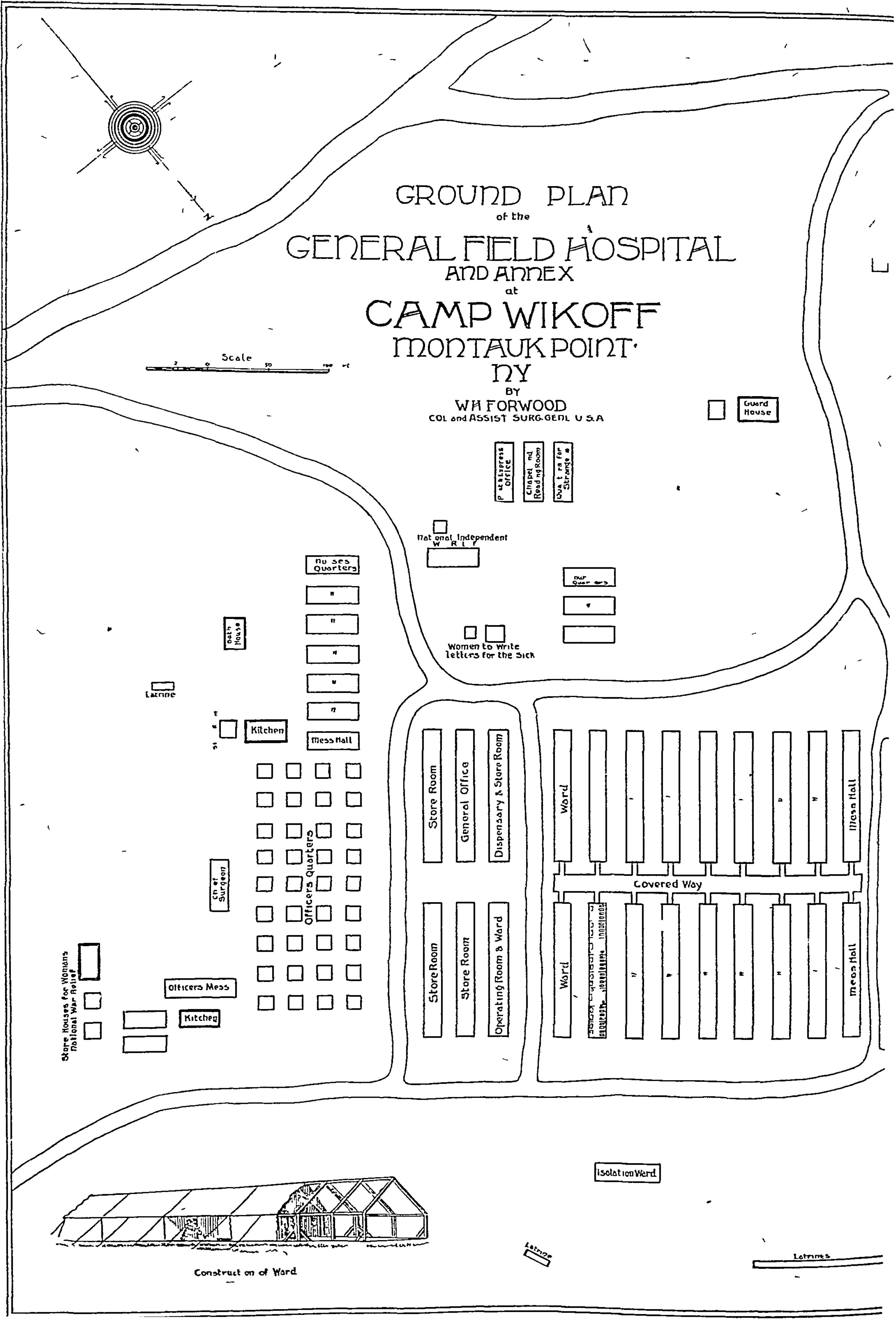
---

THE SURGERY OF CAMP WIKOFF

BY N SENN LIEUT COL U S V

CHIEF OF THE OPERATING STAFF WITH THE ARMY IN THE FIELD

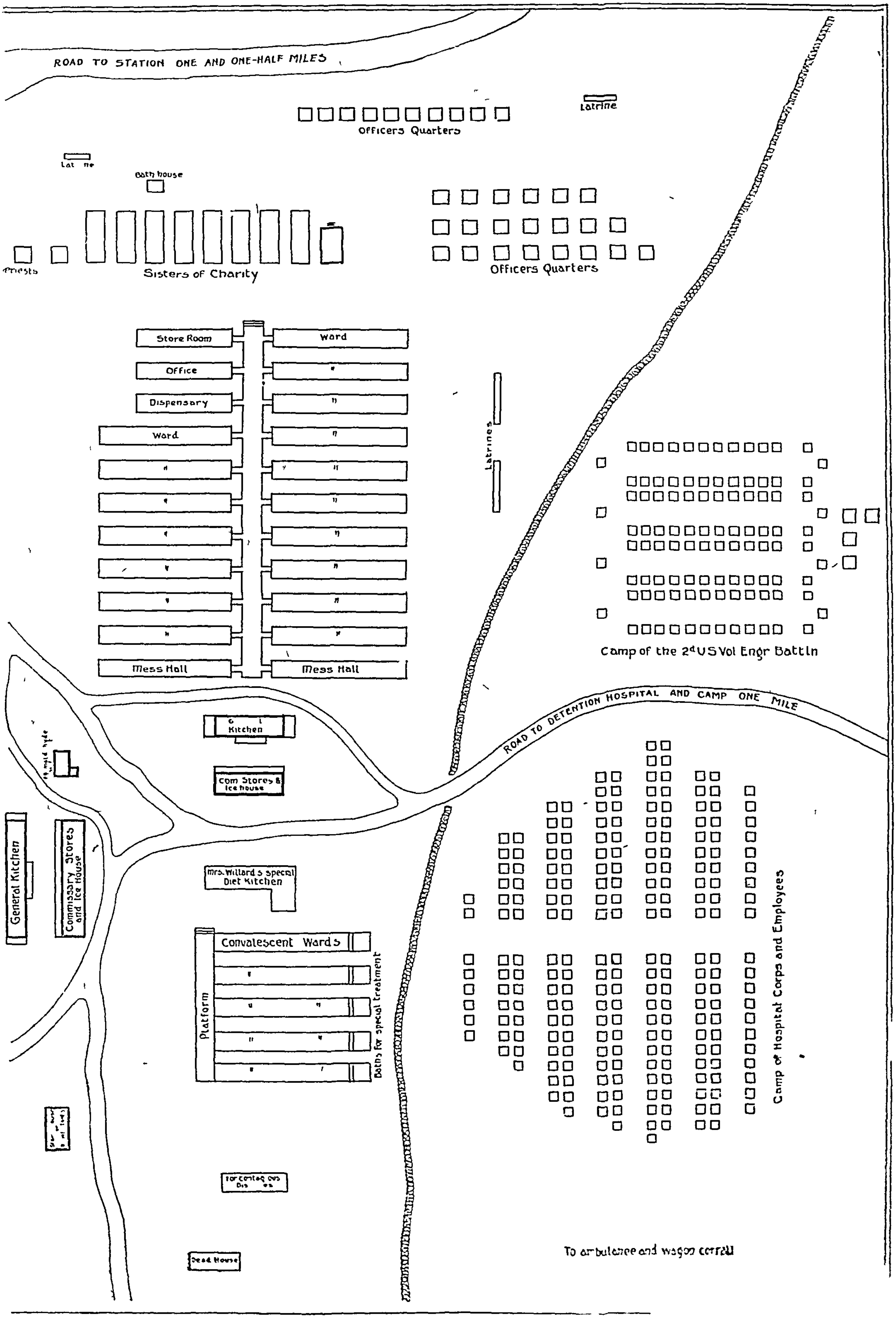
The great national Camp Wikoff has been made the recipient of the returning army of Cuba Three months ago the invasion of Cuba was ordered Our troops left the different camps in excellent condition and good cheer to meet the Spanish army in the neighboring island, fully informed and impressed with the events that awaited them The army of invasion considered it a privilege to be called to the front to represent the military prowess and power of this country The outside world had no conception of what our army could accomplish at such short notice in a distant tropical country The authorities, and particularly the medical department, were fully aware of the fact that the invasion of Cuba meant more a battle with climate and disease than the weakened, sickly, half starved Spanish forces The invasion was planned on the spur of the moment, and the corps were rushed to the front with a haste that appeared all out of proportion to the conditions of things as they presented themselves at the seat of war It was decided that our flag should float over the city of Santiago on the Fourth of July regardless of consequences The army of invasion was packed on transports days before the final order was given to sail Here was one of the many causes that impaired the health of our troops The lack of harbor facilities on the coast of Cuba, where our army landed, made disembarkment and the landing of supplies exceedingly difficult Most of the barges intended for this purpose were wrecked during the voyage, a serious loss which could not be remedied in time Much suffering was caused by the lack of efficient landing and transportation facilities Our troops were supplied with rations calculated for our climate, but not adapted for a tropical country Our soldiers were exposed at once to malarial infection in all of the camps Occupation of the buildings in which yellow fever had full sway for years, and the free intermingling of the filthy Cuban refugees and soldiers with our troops could not fail in starting and disseminating this disease among our soldiers soon after landing on Cuban soil Typhoid fever, which prevailed in all of our large camps before the army sailed for Cuba, soon gained a firm foothold at the seat of war and did its share in increasing the mortality and in shattering the efficiency of the service Amebic dysentery and diarrhea, the two greatest enemies of the Spanish army, thinned out our ranks and crowded our imperfectly



GROUND PLAN
of the
GENERAL FIELD HOSPITAL
AND ANNEX
at
CAMP WIKOFF
MONTAUK POINT
NY

BY
W H FORWOOD
COL and ASSIST SURG GENL U S A

Construction of Ward


ROAD TO STATION ONE AND ONE-HALF MILES
Latrine
Officers Quarters
Latrine
Bath house
Priests
Sisters of Charity
Officers Quarters
Store Room
Office
Dispensary
Ward
Ward
Mess Hall
Mess Hall
Latrines
Camp of the 2d U S Vol Engr Battln
ROAD TO DETENTION HOSPITAL AND CAMP ONE MILE
G. L. Kitchen
Com Stores & Ice house
General Kitchen
Commissary Stores and Ice House
Mrs. Willard's special Diet Kitchen
Convalescent Wards
Platform
Baths for special treatment
Camp of Hospital Corps and Employees
For contagious Diseases
Dead House
To ambulance and wagon corral

equipped hospitals It was fortunate that the enemy yielded to our arms so early, and made it possible for our troops to return so soon to the invigorating climate of the North for proper care and speedy recuperation Those who saw the different regiments leave our State and national camps would find it difficult to recognize and identify the soldiers of the Cuban campaign The men left in excellent spirits Most of them return as mere shadows of their former selves The pale faces, the sunken eyes, the staggering gait and the emaciated forms show only too plainly the effects of climate and disease Many of them are wrecks for life, others are candidates for a premature grave, and hundreds will require the most careful attention and treatment before they regain the vigor they lost in Cuba The surgery of Camp Wikoff represents cases and pathologic conditions which we would expect to occur in men suffering from the effects of disease, exposure and the debilitating effects of a tropical climate Our work has consisted largely in the treatment of abscesses and operations for fistula ani and hemorrhoids I was ordered to Camp Wikoff on my return from Porto Rico, and reported for duty August 22 The field operating tent and surgical wards, already in construction, were completed in two days I have been assisted in my surgical work by Major Charles Adams, U S V, and Acting Assistant-Surgeon Henry Greenleaf The Sisters of Charity have charge of the surgical wards, and two of them make the necessary preparations for operation and assist in the operating tent

Major Heitzmann Surgeon U S A

SURGICAL HOSPITAL

The surgical hospital at Camp Wikoff is a part of the general hospital It consists of nine wall tents, placed end to end and supported by a substantial wooden frame and floored throughout, constituting a pavilion of 126 x 14 feet in extent The front tent, No 1, facing southeast, boarded at the sides, with a broad table shelf on either hand, is used as an operating tent It is equipped with a regulation operating table, iron frame and top Sterilized dressings, gauze sponges, ligatures, etc, are kept in sterilized towels in readiness for use at any moment The shelves and tables are covered with white rubber cloth, which is kept scrupulously clean The instruments, after sterilization, are kept in trays containing a 2 per cent solution of carbolic acid Saline and antiseptic solutions are kept ready for use in four gallon bottles All surgical paraphernalia not in use are covered by clean white sheets The second tent, open at the sides for free ventilation and coolness, is used for the office of the surgeon in charge It is supplied with a field desk, table and chairs Section No 3 is the preparation room The instruments are kept here under lock and key Two sterilizers, basins, buckets, pitchers and a table constitute the equipment of this room A glass irrigator and a number of fountain syringes furnish the facilities for irrigation A field operating case, a Paquelin cautery, a full set of dental forceps, a complete set of urethral instruments, a case of eye and ear instruments and aspirator have furnished all the instruments required The instruments are sterilized by boiling, the dressings by dry heat

Major Brower, Surgeon U S A, in his Office General Hospital, Camp Wikoff

Hand disinfection consists in scrubbing for at least five minutes in hot water and potash soap, washing in absolute alcohol followed by prolonged immersion in a 1-1000 solution of bichlorid Just before the operation is commenced the hands are washed once more in alcohol The field of operation is disinfected in the same manner as the hands Section 5 answers the purpose of a pantry and kitchen for special diet From here the distribution of food takes place as it is received from the main kitchen of the hospital Between the supply tent and the pantry is an open passage way four feet wide, through which the patients and nurses enter and leave the hospital The four tents remaining are used for wards, having a capacity of 32 beds This hospital in the course of a few days was filled, when ward A, adjacent, occupied by medical cases, was evacuated to make room for surgical cases The present arrangements affords room for seventy five surgical patients At the present time, September 10, every bed is occupied The six Sisters of Charity in charge are assisted by three orderlies from the Hospital corps Patients are prepared for operations with proper antiseptic precautions, and no pains are spared to give them the benefit of modern surgical methods in every detail, during their stay in the hospital The nursing and care of the sick are faultless, and the diet is not only ample in quantity and quality, but often luxurious, far exceeding what is served on the table of the officers mess tent The patients much reduced in flesh and strength by fever or suppurative affections, are furnished with a liberal supply of stimulants including champagne and port wine With very few exceptions indeed, prompt improvement has followed the operative interventions, more especially in the cases of large phlegmonous and ischiorectal abscesses It is my intention in writing this paper to give the profession a general idea of the surgical work done in Camp Wikoff since I took charge of this branch of the hospital work August 22 Nothing had been done up to that time in caring for the surgical cases The hospital was overcrowded, and the available physicians were extremely busy in looking after the welfare and accommodation of the fever patients In two days I had the surgical ward in a condition to receive patients, and on the third day the first operations were performed At first a pocket case did sole duty in the operating room The hospital outfit and supplies were picked up here and there, and in a few days we were ready to begin systematic, efficient work Many of the patients were so weak and anemic that the administration of an anesthetic was deemed dangerous In such cases the patients were given strychnia subcutaneously and a liberal dose of whisky by the mouth Patients considerably enfeebled by disease were given ether in preference to chloroform Chloroform by the drop method was the anesthetic of choice in all cases where the general conditions of the patient did not contraindicate its use Operations were performed during the forenoon, beginning at 9 o'clock

TOOTHACHE

Of the organs frequently affected among the returning soldiers were the teeth Patients suffering from carious aching teeth were numerous In most instances they presented evidences of serious malnutrition following disease and exposure, suppurative alveolitis was less frequent Infection of many oral cavities showed that teeth had been sadly neglected during the campaign In Cuba and Porto Rico I saw occasionally a soldier with a tooth brush under the hat band, but I have reason to believe that most of the tooth brushes were either left at home or thrown away on the march, as unnecessary articles of the limited toilet outfit I did all I could in the way of conservative dentistry by cleaning out cavities and packing wtth cotton saturated with carbolic acid, but in the majority of cases the patients returned and insisted on having the painful tooth extracted Tooth extraction was a conspicuous and grateful part of the surgery of Camp Wikoff Hardly a day passed without two or three such operations A very complete set of tooth forceps furnished by the government did good service in relieving the victims of toothache of their agonizing suffering Much has been said in favor of attaching a dentist to each regiment to look after the teeth of the men, and the observations made in Camp Wikoff tend to support the propriety of such a much needed addition to the medical service It is interesting to know that among these patients there was not a single officer, undoubtedly because the officers were more particular in the care of their teeth than the privates

HERNIA

The number of hernias that presented themselves in Camp Wikoff astonished us all In every case the statements of the patients were to the effect that the hernia appeared since the enlistment It might be surmised that at least in some of the cases this physical defect was overlooked during the examination This might have been so in isolated instances, in the case of volunteers, but such a view would not hold good in men belonging to the regular army I saw more cases of hernia in men belonging to the latter, than the former branch of the military service Our army in Cuba was not subjected for any length of time to hard marching or violent exertions of any kind, consequently the causes which led to hernia must be sought outside of such mechanical influences Careful examination appeared to prove that in most, if not in all cases, the hernia was of recent origin I attribute the hernia formation principally to the relaxation of tissue, caused by disease and its effects, aided undoubtedly by the prevalence of intestinal affections which must have often resulted in increased abnormal intra abdominal tension The uncertainty of the duration of the encampment induced me to advise against operative interference, and in most cases the general condition of the patients was such as to constitute in itself a strong contraindication to the performance of a radical operation The patients were fitted with a truss and advised to have a radical operation performed after their general health was restored, after leaving the service or obtaining a furlough

VARICOCELE

The frequency with which varicocele is met with in men from 18 to 45 years was shown in the examination of 9901 volunteers in Camp Tanner, Illinois As a member of the board of examiners, I was very anxious to obtain accurate information regarding this subject, and accurate notes were kept at the time We found varicocele, slight, 992 medium, 692, large, 295 Of the slight cases 10 were double, 7 of the right side only, of the medium cases, 7 were double, and 4 of the right side only, of the large cases 4 were of the right side only The percentage of varicoceles to total number examined was 21 17 , Only six were regarded as physical disabilities, and those on account of size and pain At that time I wrote a paper calling attention to the great frequency of varicocele in men of the age for military service, and claimed that ordinary varicocele was no valid objection to the enlistment of men for military duty Of the more than 15000 men who returned from Cuba and were landed at Montauk, only five cases of varicocele applied for treatment at the surgical ward In all of these cases the local symptoms were such as to warrant an operation The operation was performed by excising through a straight incision, directly over the cord, the enlarged veins between double ligatures The veins were carefully isolated by dissection from the spermatic cord and the accompanying artery After excision the two stumps were brought together by a single catgut suture, and by tying over this a thread of one of the ligatures left long from each side The stumps were buried by several fine catgut sutures with which the deep layers of the tissues were united The external wound was always closed with horsehair sutures Elongation of the scrotum sufficient in degree to require attention was corrected by transverse suturing of the external wound The wound was sealed with collodium, a few narrow strips of iodoform gauze, and a pledget of absorbent cotton over which the usual dressing and bandage were applied

Case 1 —John D Deboer, **aged 21**, colored *Troo*[illegible] *First*
Cavalry, has had varicocele t eighteen
listed five weeks ago M of the
on the left side with

same side He has had no pain, but much discomfort in hot weather from relaxation and dragging sensation Operation under chloroform narcosis August 31 General health not much impaired

Case 2 —William Cantwell, age 31, Company B, Sixteenth Infantry, has been in the service fourteen years Varicocele appeared eighteen months ago Since he entered the active service the swelling has often been painful, especially during forced marches and in hot weather He is much concerned about his condition, and submitted willingly to the operation, which was performed under ether anesthesia September 3 On exposing the varicose veins it was found that the tunica vaginalis had remained patent from the external inguinal ring to the testicle, but contained no fluid The veins were isolated with some difficulty from the cord and the spermatic artery After disposing of the vein stumps in the usual way the tunica vaginalis was closed with fine catgut sutures over the cord The scrotum was shortened by transverse suturing of the wound

Case 3 —Wm Reed, age 23, colored, Troop H, Ninth Cavalry Made its appearance soon after his enlistment two months ago The varicocele is of large size and gives rise to much pain on riding or walking any distance Operation under chloroform narcosis September 3

Case 4 —Robert Duseman, age 21, Second Volunteer Engineers Entered the service two months ago Six weeks ago, during drill, he bruised the left side of the scrotum, and attributes the varicocele to this cause He complains of a dragging sensation in the testicle on the left side, the seat of the varicocele of medium size Usual operation under ether, September 11

In all of these cases the general health of the patients was not much impaired, and the wounds healed rapidly by primary intention

HYDROCELE

Hydrocele from puberty to the age of 45 occurs much less frequently than varicocele Of the 9901 cases examined in Camp Tanner, we found only 49 cases of hydrocele of the tunica vaginalis and 18 of the cord Only one case of hydrocele of the tunica vaginalis came for treatment to the surgical ward of Camp Wikoff

Case 5 —John Craigie, Company E, First Artillery, a young soldier whose health had become greatly undermined by malaria, was sent from the medical to the surgical ward, for a painful affection of the left testicle of a few days' duration Patient very anemic and emaciated A few days ago, on recovering from his illness for which he had been sent to the hospital, the left testicle became painful and tender, accompanied by a gradually increasing swelling He came under surgical treatment August 27 Careful examination revealed an acute hydrocele of the tunica vaginalis on the left side without any palpable visceral lesions of the testicle or epidydimis The fluid, straw colored, was evacuated by tapping with a small trocar One dram of equal parts of alcohol and carbolic acid was injected The reaction was moderate and the patient left a few days later, the swelling gradually diminishing in size

BONES AND JOINTS

Only a few cases of injury and disease of bones and joints came under observation in the surgical department of the general hospital, but these isolated cases present features of interest sufficient to justify mention in connection with the subject of this communication

Case 6 —*Gunshot fracture of femur* S M Wetmore, age 25, trumpeter, Troop D, First Volunteer Cavalry, was shot through the right thigh at the junction of the lower with the middle third, the bullet passing in the antero posterior direction, the wound of exit being on a higher level than the wound of entrance The wounds were dressed with idoform and healed by primary intention Just before he was transferred from the hospital at Siboney to the *Relief* he became very much debilitated and manifested other and more characteristic symptoms of iodoform intoxication A plaster cast was applied, and he was sent to the fever camp as a case of yellow fever—a diagnosis which was never confirmed by the physicians in charge of the hospital He suffered from malaria, and his present condition indicates to what extent the malarial intoxication has advanced He is extremely anemic, and emaciated to a skeleton The spleen is much enlarged The fractured limb is shortened two inches and a half, marked overlapping of fragments, union fibrous Plaster of Paris bandage reapplied Tonic and stimulating treatment

Case 7 —R Whitington, aged 25, First Volunteer Cavalry, on August 14 was riding bareback, when his horse made a quick turn and in tumbling over an embankment the horse fell upon his left leg, producing an oblique fracture of the tibia about two inches above the base of the malleolus, and of the fibula about four inches higher For some days the limb was placed in a fracture box, but it was found impossible to immobilize the fragments properly During this time the patient suffered from pain and loss of sleep August 27 he was placed under the influence of chloroform, the fragments were properly adjusted and the limb immobilized in a plaster of Paris splint extending from the base of the toes to the knee Since that time he has been free from pain and has slept without the use of anodynes

Case 8 —Maj Gen S B M Young injured his ankylosed elbow joint, September 2, and received first aid at the surgical ward the next morning During the War of the Rebellion he received two gunshot wounds of the right arm One shattered the lower third of the humerus, the other perforated the elbow joint After a prolonged siege of suppuration he finally recovered with ankylosis of the elbow joint, in flexion at an angle of about 110 degrees, and in a position of marked pronation September 1 he stumbled and fell, striking upon the hand and elbow He complains of severe pain in and about the joint The elbow joint is swollen and very painful on pressure and manipulation Ecchymosis over both condyles There is some motion but no crepitation, indicating the existence of ruptured intra and periarticular adhesions The patient states that this is the fourth time since the ankylosis occurred that it has been broken by injury of some sort The limb was padded with a thick layer of cotton from the base of the fingers to the shoulder joint, over which a light plaster of Paris bandage was applied The patient was placed in charge of Major Nancrede, his attending physician, who a few days later substituted for the plaster dressing an angular wire splint In less than a week he reported for duty at Camp Meade

Case 9 —Thomas A McDonald, age 24, Second Infantry While in action before Santiago the stock of his gun was struck by the fragment of a shell, the arm was violently twisted and the radius fractured The forearm now presents the characteristic "silver fork" deformity of an imperfectly reduced Colles' fracture There is swelling of the wrist, inability to use fingers, and pain on attempted pronation and supination Massage, manipulation and electricity advised

Case 10 —Preston Guthrie, aged 34, Company F, Twentieth Infantry, re enlisted three and one half months ago States that he cut his left arm two years ago The wound was slow in healing and left a scar adherent to the underlying ulna Nothing in the clinical history would indicate that the bone was affected at that time A contusion of same region occured while loading a transport in Cuba, which was followed by a complexus of symptoms pointing to the existence of a central osteomyelitis An abscess which formed later ruptured through the old scar, an occurrence which was followed by prompt relief A moderate discharge has continued since Examination made August 26 disclosed two fistulous openings over the posterior surface and center of the ulna, leading into a central osteomyelitic cavity Ulna at the seat of disease considerably enlarged Through a straight incision the fistulous openings in the involucrum were exposed and the cavity freely laid open by chiselling A sequestrum lying loosely in the bone cavity was removed and the granulations lining the cavity scraped out by a vigorous use of the sharp spoon After thorough disinfection of the cavity the periosteum was sutured carefully, over which the wound was closed in the usual manner, leaving only a small space for gauze drainage The wound remained aseptic and healed rapidly by primary intention

Case 11 —George Oppel, aged 21, enlisted in the Second Infantry one month ago He was admitted to the surgical ward with a fluctuating swelling over the inner aspect and a little above the left knee joint Ten years ago he was struck in this region with a brick and suffered from an acute bursitis The bursa has been enlarged ever since, but has not been painful until recently There is no tubercular history in his family The swelling is flat and in circumference is as large as a medium sized orange On palpation no fluctuations can be felt, the sensation imparted being of a semi elastic nature The swelling is somewhat tender to touch and is painful when he attempts to walk August 31, the patient being under the influence of a general anesthetic, the bursa was punctured with a small trocar in three different directions through the same opening in the skin and was thoroughly injected with a 5 per cent solution of carbolic acid Pressure was applied over the bursa and the limb immobilized upon a posterior splint In the course of a week the swelling had almost entirely disappeared and the patient returned to his command for duty

REMOVAL OF FOREIGN BODIES

Two interesting cases of removal of a foreign body lodged in the tissues presented themselves for operative treatment

Case 12 —Benjamin Nelson, age 23, Company F, Third Infantry Came under observation and treatment September 6 Three years ago he fell backward against a window and sustained several cuts of the scalp by fragments of broken glass The wounds healed rapidly without suppuration After his recovery he was aware of the presence of a piece of glass which had remained encysted in the pericranial tissues ever since, without giving rise to any inconvenience until recently A few weeks ago the scalp over the embedded foreign body was bruised, and since that time it has caused irritation and pain The piece of glass could be readily outlined by palpation On the day mentioned, without anesthesia, a straight incision parallel to the long axis of the foreign body was made No suppuration within or outside of the capsule The piece of glass was found surrounded by a firm capsule of fibrous tisue and measured two centimeters in length and two tenths of a centimeter square at the end The broken surface was irregular in outline The wound was sutured with horsehair and union was found complete at the time of his discharge, September 11

Case 13 —Sergt Oscar F Winter, age 52, Company F, Ninth Infantry, seventeen years in service On July 2, while in the act of rising just behind the trenches, he was wounded by the bursting of a shell near him He was confident at the time, from the sensation experienced, that he had received a blow from a large fragment of shell on the crest of the left ilium He says a large ecchymosis formed at once and he could see no evidence of penetration He was assured by a medical officer that he had suffered a contusion only, that there had been no penetration He says, however, on being questioned, that a small rent existed in the clothing over the supposed contusion, but is very positive that he must have been struck by the convex side of a large piece of the bursting shell An abscess developed soon after the injury was received and has discharged at a point near the anterior superior spine of the ilium and the resulting sinus has remained since The patient has done duty without missing a day since he received the wound, until reaching Camp Wikoff The existence of an abscess cavity and the history of an opening in the clothing led to exploration for a foreign body The existing opening was slightly enlarged, under chloroform anesthesia, and exploration of the cavity with the finger located a shrapnell ball at about 3½ inches downward from the opening of the sinus Counter opening was made at this point and the ball extracted Tubular drainage, irrigation with peroxid of hydrogen and 2½ per cent carbolic solutions and moist carbolic dressing Speedy healing of the wounds

(To be continued)

SOCIETY PROCEEDINGS

Chicago Medical Society

Regular Meeting, Nov 2, 1898

Dr Arthur D Bevan, the president, occupied the chair

Dr E J Senn exhibited a patient upon whom he had performed a plastic operation following recurrent carcinoma of the breast

Dr A R Small reported a case of comminuted fracture of the patella The patient was a victim of the Wabash Avenue fire on March 16, 1898 The left patella was broken into several pieces The leg was put up in splints, and the result was excellent It was not found necessary to wire the fragments

Dr Arthur D Bevan has demonstrated beyond doubt, by means of the X ray, within the last two or three years, that bony union occurs in fractures of the patella treated by the conservative method, consequently it is not necessary to wire the fragments in many cases

Dr John Ridlon exhibited a case of infantile paralysis affecting only the shoulder muscles The child is 3 years of age The case is undoubtedly one of anterior poliomyelitis, which came on when the child was a little less than 3 years of age, with the ordinary symptoms, but involving only the shoulder muscles He said that Dr Archibald Church has a photograph of a similar case affecting the arm muscles, but not the forearm and hand muscles

EXTENSIVE FISTULA IN ANO

Dr J R Pennington reported a case and exhibited the patient She was referred to him by her physician, about eighteen months ago, then suffering from what is commonly called a "horshoe fistula" He said that this fistula is frequently, though not always, preceded by an abscess situated between the rectum and coccyx and beneath the raphe In a typic case the pus burrows on both sides of the rectum and into the bowel dorsally between the sphincters Cripps says "the matter originally collects in one or other of the ischiorectal fossæ, then makes its way behind the bowel to the fossa of the opposite side" From inspection and examination it is often impossible to measure the gravity of a case of fistula in ano One may not suspect its complexity and extent until after the first incision has been made The presence of only one external opening does not necessarily signify a simple fistula He has seen some very extensive and complex fistulæ with only one external opening That was the condition of affairs in this case In operating upon these cases it is important to recognize their conformation—especially is this true when there is one or more external openings on each side of the anus—and to bear in mind that these tracks have a home in common Otherwise the operator is apt to proceed as though he had two separate and distinct fistulæ with which to deal, and by following the advice given in some text books, slit up first one sinus, then the other, and, when too late to remedy recognize that he has divided the sphincter in two or more places, that his patient has incontinence of feces and a remaining fistula—a very undesirable result, because to operate and not cure the patient is to bring disrepute on rectal surgery, and for the operation to be followed by incontinence of feces is to leave the patient in a most mortifying and loathsome condition, which is not apt to redound to the surgeon's credit

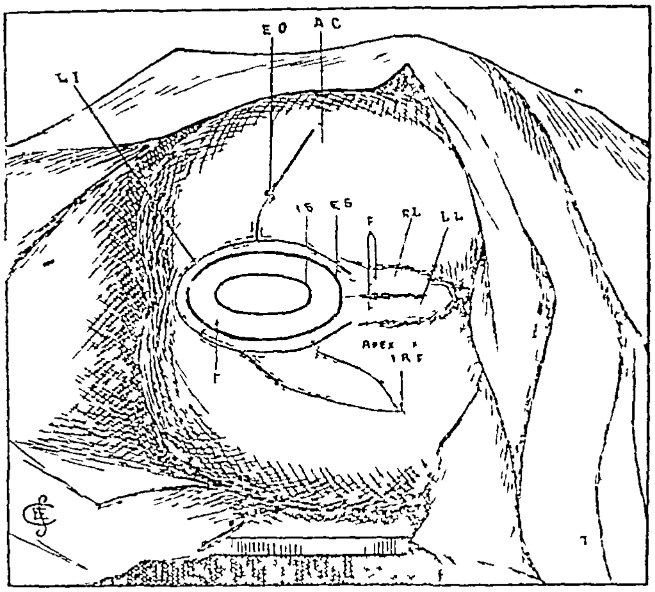


Figure 1

In this patient there was an external opening in the right buttock and an internal one on the left aspect of the bowel

With reference to finding the internal opening when operating, Mathews says "What this has to do with the operation for fistula, I must confess, I can not understand" Then he continues by saying that "if during the operation I introduce my grooved director and fail to find any internal opening, when one really exists, I push the instrument through the mucous membrane, then divide the tissues upon it, and search up the bowel from the cut, allowing the director to go as high as it will Then, dividing again we, of course, include any internal opening that may exist" Had Dr Pennington followed this advice and pushed the director through the mucous membrane and divided the structures over it, incontinence would certainly have followed and the internal opening remained undivided Beginning at the external opening he divided the fistulous tracks, as indicated by the heavy lines in the right buttock, to a point just beyond the track running into the bowel He then discovered this latter fistula which he thoroughly curetted and irrigated with a bichlorid solution He purposely, at this seance, did not continue the division farther on the left side, but thought to try to close the canal extending on to the left labia by means of injections This failed In about three weeks after the first operation he opened this track and to his surprise found the two tracks leading off from this one to the very apex of the left ischiorectal fossa This necessitated a com[illegible] division of the fossa The dotted lines in Fig 1 show fistulous tracks, and heavy lines, incisions made The tuberosity of the ischium extended almost an inch above the base of the incision on the right side The photograph, which was taken seven months after the operation, shows the great atrophy of the buttock, and gives only a meager idea of the destructiveness of this fistula

Figure 2

The Doctor called attention to the fact that the sphincter was not divided, there is no incontinence, and that the patient made an uneventful recovery, also, that by operating in this manner, feces do not come in contact with the wound during defecation

RECTAL INCONTINENCE

The second case he reported was one of incontinence of feces following an operation for a simple fistula, while in the first case no incontinence followed operation for extensive and complete fistula This patient says, that she was operated upon two years ago by a good surgeon She had been sent to him to have the function of the divided sphincter restored Why an operation for fistula is followed by incontinence in some cases and not in others, it is difficult to say Smith believes it to be due, not so much to the division of the sphincters as to the severing of the muscular fibers of the lower part of the rectum Esmarch thinks it due to the division of the nerves supplying the muscles more than the division of the muscular fibers, while Kelsey holds to the theory that it is due to the vicious cicatrization, by which the divided ends of the muscles are not brought into apposition The Doctor's own belief is that it is due as much to a want of technic in operating and inefficient after treatment as to any other one cause In bad cases flatus is passed without treatment as to any other one cause In bad cases flatus is passed without the slightest warning, and the contents of the rectum may be discharged into the clothing before the sufferer can reach the toilet room This condition is often so mortifying that patients express a desire to die rather than to live It is very gratifying, however, to know that most of these cases can be cured or at least made comparatively comfortable In the less severe cases, much benefit may be derived from the use of drugs and from regulating the diet It must be remembered, however, that in directing palliative treatment there is a great variation in peristaltic action, some persons defecating two or three times in twenty four hours, other only once in forty eight to seventy two hours In the former the stools are semi solid, while in the latter they are hard and scybalous like Hence the control of the feces in a patient with a weakened sphincter may be easy or difficult In the more severe cases, where operative interference is indicated, the surgeon has ample opportunity to exercise all his surgical ingenuity in devising an operation for relieving this condition In those cases where the remaining segments show signs of contractility, measures looking to their union and restoration of the muscle will be more or less successful Among the measures may be mentioned 1, Tait's operation upon the perineum, 2, application of the cautery, 3, exposing the cut ends of the divided sphincter, and their reunion by sutures But when the nerve supply has been destroyed, the muscular segments greatly atrophied and displaced by cicatricial tissue, restoration becomes impossible In such cases the operation devised and successfully performed by R Gersuny of Vienna, and subsequently by A P Gerster of New York, which consists in separating all the coats for two and a half inches up the bowel, then securing the gut and twisting it upon itself in an arc of 360 degrees, and stitching it to the skin by sutures, will perhaps give the best result

Dr **ALEXANDER HUGH FERGUSON** reported a case of floating kidney, tubal pregnancy and gall stones, in one patient, all treated surgically on two different occasions The extra uterine pregnancy occurred in the right tube The patient was a private case, 30 years of age, and was referred to him by Drs Franklin and Bergeron She presented herself, complaining of pain in the umbilic region and of a tumor in the right lumbar region, which was movable A diagnosis of floating kidney was apparent The diagnosis of gall stones was more difficult In May last she had her first attack She retired, after a hard day's work, and about three o'clock in the morning was seized with a sudden pain in the region of the umbilicus which woke her up Vomiting was present Hot fomentations were applied and the pain subsided as suddenly as it appeared This was a point he wished to particularly emphasize as diagnostic of gall stones attempting to leave the gall bladder and falling back again Two or three days after that she had a second attack Pain came on suddenly, again about three o'clock in the morning, and was referred to the umbilic region, with vomiting There was tenderness, on pressure, over the region of the gall bladder She had slight pyrexia, and a physician was called, who gave morphin One dose of morphin and the application of hot fomentations sufficed to relieve her second attack Five days later she had a third attack The pain came on suddenly, and was again referred to the umbilic region, accompanied by vomiting There was more tenderness over the region of the gall bladder than during the other attacks In the second day of the attack slight jaundice appeared and persisted for a week This attack disabled her for about ten days From the first week in June until July 31, when he saw her, she had had six or eight attacks After this attack, a tumor was felt for the first time in the lumbar region This was correctly diagnosticated as a floating kidney A rubber bag inflated with air was bandaged over it, when she would have attacks of colic they would be relieved by the inflated bag pressing the kidney upward and backward, but the pain would not completely disappear Upon manipulation it was found that the kidney could be pushed upon the brim of the pelvis over to the median line, and could be swept back to its place with that characteristic slip that is found in floating kidneys Manipulations over the gall bladder at this time elicited very little tenderness, except when he gave a deep prod If stones are present in the gall bladder, patients usually complain of a pain when a deep prod is given them From the above mentioned data he made the double diagnosis of floating kidney and gall stones

An incision was made on the side to fix the floating kidney, through which the gall bladder was explored and 114 gall stones removed by the lumbar route He believes it unwise to anchor the gall bladder in the lumbar region because we would surely have a fistula, therefore, he made a button hole incision in front, opposite the cartilage of the ninth rib and the gall bladder was sutured to its internal aspect and drained He drains almost all gall bladder cases The woman made an uninterrupted recovery, left the hospital at the end of three weeks, and two days after had an attack of biliary colic This attack came on suddenly, was accompanied by tympanites and tenderness which lasted for several days, when a second attack came on This attack was more severe, was accompanied by vomiting and slight jaundice A third attack was still more severe The pain during these attacks was always referred to the umbilicus as in the previous attacks, and this is of importance from a diagnostic standpoint Pain began in the region of the right ovary during the third attack This new complication predominated during a fourth attack of biliary colic, with the greatest amount of pain in the right pelvis, and symptoms of internal hemorrhage All the time jaundice was intermittent Her husband wrote to him about her condition, and he told him to send her back to the hospital, where Dr Ferguson made an examination, found tenderness in the region of the cystic duct, and a great deal of tenderness in the right ovarian region Upon vaginal examination he found a large, soft, boggy mass She had menstruated just a week before entering the hospital the first time He found milk in the breasts, and made a rather bold diagnosis of stone plying between the cystic and common ducts and extrauterine pregnancy She was placed upon the operating table, and an incision made through the right rectus muscle low down, so as to deal with the mass in the right pelvis The abdomen being opened clotted and liquid blood was noticed The pelvis was full of it A mass was seen in the right pelvis, this was covered with a gauze pad for the time being Going on the left side of the patient entering the abdominal cavity, passing two forefingers of his left hand through the foramen of Winslow at the junction of the cystic and common ducts, he felt an irregularly shaped stone In trying to force it up into the gall bladder, it slipped away and went in the direction of the common duct He went after it again and pushed it into the gall bladder, then incising the gall bladder at the site of the former wound, which had closed, he slipped the stone out He then demonstrated that the ducts were pervious, by forcing water through them into the duodenum He exhibited the fetus, which measured three inches and a half from vertex to nates Both fetus and placenta were found in the tube The last operation was performed six weeks ago He exhibited the patient and specimens

Dr **Arthur D Bevan**, in the discussion, narrated a case in which a diagnosis of gall stones, floating kidney and appendicitis was made, an operation successfully performed and the diagnosis verified

Dr **James B Herrick** contributed a paper on

THE TREATMENT OF ULCER OF THE STOMACH BY REST IN BED AND RECTAL FEEDING

He regarded the writing of a paper on this old subject as warranted by the fact that many modern text books make no mention whatever of rectal feeding in the treatment of ulcer, others recommend its use only in severe or exceptional cases, while a relatively small number advocate its employment in all cases Physicians, too, often oppose the treatment or give it a half hearted approval By rest in bed and rectal feeding, the natural tendency of the ulcer toward recovery is encouraged by the removal of all mechanical and chemic irritation, so far as this is possible

He said that several objections have been made to rectal feeding The objection that the rectum will not submit to repeated enemata, but will give out, is answered by the fact that when suitable enemata are properly administered, the rectum will tolerate this method of treatment for many days or many weeks Some contend that the nourishment is not absorbed, but its absorption is proven by experiment as well as by clinical observation The argument against this method, that the patient can not stand it, that he will become too weak, can not endure the thirst, hunger, and weakness, is answered by the fact that patients do stand it and without complaining, and that when the matter is clearly set before them they submit to this method willingly The objection that the treatment is inefficient and unsuccessful is answered by the successful results in the hands of physicians who have tried the method carefully, and by the fact that the trend of medical opinion is setting in toward rectal alimentation in all cases of ulcer of the stomach

In carrying out the treatment it is important to secure the consent of the patient by a clear explanation of the reasons for the treatment, the method of carrying it out, the probable length of time required, etc This relieves worry and restlessness on the part of the patient The bowels should be emptied by a preliminary laxative and cleansing enema Absolute rest in bed should be required for from two to six weeks Nothing should be given by the mouth, not even water, for from three days to three weeks Nourishing enemata should be given at regular intervals, say of four hours, by means of a soft rubber tube inserted high into the rectum Enemata can be given once in twenty four hours, a period of eight hours' rest, as, for example, from midnight to 8 o'clock in the morning, being desirable The quantity and kind of food, as well as the hours, can be varied in individual cases A simple enema of water is to be given every morning This may be retained, in which case it quenches thirst, it may be rejected, acting as a cleansing enema As pain, tenderness and vomiting cease, the enemata can be gradually withdrawn, and peptonized milk or other light diet carefully substituted by the mouth The patient should be allowed to get out of bed only after rectal alimentation has been entirely stopped It is best to keep the patient in bed for at least four weeks Iron may be necessary for the chlorosis so commonly present This should only be given when a light diet is tolerated The results are an almost immediate lessening of pain, vomiting and nausea There may be emaciation and weakness, that will disappear quickly when stomach feeding is resumed A cure is the result in the larger number of recent cases In old cases a cure, or at least improvement, will follow Deep ulcers, very extensive ulcers, large amounts of scar tissue or adhesions may interfere with a perfect recovery This rational method of treatment, allowing nature to work the cure, deserves the warmer endorsement of text-books and physicians, particularly as medicinal treatment is so unsatisfactory It should be employed in every case, either mild or severe

Dr **Henry Gradle** read a paper on

PHLYCTENULAR OR SCROFULOUS OPHTHALMIA

After referring to the frequency of this affection and its preponderance in girls, he described it as a disease of childhood seen rarely after puberty and then only in patients who had been subject to it since early childhood The characteristic lesion is the phlyctenule, not a vesicle but a translucent papule (of leucocytes), which in typic cases disappears by absorption in five to eight days The serious aspect of the disease, however, is the liability to relapses, often in multiple form, the frequent delays in the disappearance of the phlyctenules, and particularly their transformation into larger papules, into corneal infiltrates, which often ulcerate, or into diffuse patches of superficial keratitis with new formation of blood vessels All these manifestations are but metamorphoses or sequelæ of phlyctenules

The causes of such an unfavorable course are often associated with adjoining lesions, the proof of which is furnished both by the coexistence and by the influence of treatment of these associated lesions upon the phlyctenular process Among these injurious conditions are catarrhal conjunctivitis, and especially the transient smooth hypertrophy of the superior retrotarsal fold, called by the Germans *Schwellungskatarrh* For the latter condition the author recommends nitrate of silver (if necessary, in the strength of 10 per cent solution), to be applied strictly to the swollen fold of the conjunctiva Important, likewise, is ulcerative blepharitis to be treated with the stick of nitrate of silver and the yellow oxid salve

Eczema is so frequent a coincidence that the disease has been termed "eczematous kerato conjunctivitis," a name which the writer considers inappropriate as the eye affection is neither clinically nor anatomically analogous to cutaneous eczema Eczema of or near the eyelids exerts a distinctly injurious influence upon the eye lesions Whether eczema at a distance is of equal importance is doubtful

Purulent rhinitis is often, but by no means always, associated with phlyctenular disease With it there is nearly always hypertrophy of the pharyngeal tonsil – adenoid vegetations The latter condition requires surgical removal from intrinsic indication, but how much the nasal disease predisposes the eye to relapses, or to persistence of the phlyctenular lesions is an open question

The direct cause of phlyctenular eruption is as yet unknown The search for constant or characteristic microbes has been unsuccessful, and the most extensive researches by Axenfeld led to negative results It is certain, however that the exceptions to this rule are merely apparent, not real, for scrofulosis is at present a vague term, and not recognizable The researches of Koch and especially his disciple Petruschky, have made it almost certain that scrofulosis is identical with mild chronic poisoning of the juvenile organism by the toxins of the tubercle bacillus, usually hidden in some lymphatic gland But some of the manifestations of scrofula—the tendency to eczema and the enlargement of the pharyngeal tonsil—are not themselves tubercular lesions, or due to the presence of the tubercle bacillus in the diseased locality, but they are evidently local chances due to other causes, favored, however, by the undermining of the resisting power of tubercular poisoning The author regards phlyctenular ophthalmia in the same light, namely, as a lesion occurring mainly—if not exclusively—in a soil predisposed by poisoning from some forms of "latent" tuberculosis —in the lymph glands This view was supported by the characteristic reaction of some diagnostic injections of tuberculin in four cases

On the basis of this view, and from extensive experience, he endorses the hygienic treatment generally adopted in tuberculosis, namely, an out door life, proper feeding, baths, and, if indicated, cod liver oil These measures seem to protect fairly well against relapses, but their influence requires too long a time to be of immediate benefit as far as the attack at the time is concerned In the local treatment he recognizes the influence of calomel dusted into the eye, especially when used two or three times daily Atropin is of decided influence when there is pronounced ciliary irritability and especially when the pupil is narrowed or resists the dilating influence of the drug But whenever the process is not accompanied by much irritation, or when the pupil yields at once, atropin seems to exert no influence of any kind

Dr **Weller Van Hook** described a hernia operation designed to do away with the need of splitting the aponeurosis of the external oblique muscle, in order that, in case of suppuration the state of the patient need not be aggravated by the enlargement of the external ring After treating the sac by partial amputation and drawing the stump back up the canal by means of a curved artery forceps and fastening it after

Kocher's plan, to the tissues above the cord, he dissects up the aponeurosis of the external oblique from its muscle and frees Poupart's ligament by the finger introduced into the canal A handled curved needle, unarmed, is then passed under Poupart's ligament at a point sufficiently below the cord to prevent the pinching of the cord at the internal ring The point of the needle is received under the finger in the inguinal canal and is carried under the cord (raised by an assistant) to a point behind the inner pillar The needle is then passed through the internal pillar and its point appears projecting through the aponeurosis of the external oblique The needle is then threaded and withdrawn The forefinger is next passed up the canal behind the cord until the inner portion of the thread is felt between the external oblique muscle and its aponeurosis The finger is hooked around the thread in order to pull it out of the external ring along with the finger Then the needle is introduced at a point about one fourth of an inch inside the first point of introduction through the aponeurosis of the external oblique into the canal, it is guided with the finger down the canal to the external ring and is there again threaded with the suture end which was brought out by the finger It will be seen that when the needle is withdrawn we have a suture by which we can draw together the internal pillar and the most posterior portion of Poupart's ligament As many such sutures as may be desired are thus introduced and the external ring is closed by sutures in the usual way

This operation would be impossible only in those rare cases in which Kocher's and McEwen's operations could not be performed, viz , when an inspection of the internal ring is imperative There is no risk of injury to important structures, and the amount of time required for the operation is scarcely more than would be needed for an ordinary Bassini

---

San Francisco County Medical Society

November Meeting

Dr **Jellinec** presented a paper, with a demonstration of a case, on

SPORADIC CRETINISM

The first case reported was that of a female child, 4 years and 2 months old when first seen The parents were Jews, but there was neither any family history nor any particular taint that could be ascertained Up to the age of 9 months the child had developed normally, but after that time she began to exhibit the various indications of the disease When first seen, about the middle of August, she weighed 25½ pounds and presented a perfect picture of cretinism The could not be found the slightest trace of thyroid gland, and its absence was declared by the Doctor Constipation was very marked, the bowels moving only every fifth to sixth day, and then only under cathartics Treatment by tablets of thyroid extract was commenced, August 26 The dose at first was one half a tablet per day, or the equivalent of 15 gm of the gland No effect was observed from this dose, at the end of a few days, so the quantity was increased to 3 gm , or one tablet per day This had a very decided effect, for it produced copious stools and the child began to lose flesh very rapidly The dose was therefore reduced to the former amount, one half tablet October 11, the child had lost two and one half pounds, and was quite perceptibly improved It was still a very well marked case of the disease, and the Doctor expressed his intention of continuing the thyroid treatment and reporting the case to the Society from time to time

The second case reported was much the same as the first, only it had been under treatment for some thirteen months, and consequently showed very marked improvement When first seen the child was 5½ years old, 61 cm in height, and weighed 19 pounds, its vocabulary consisted of nine words, most of them being so poorly articulated that they were unintelligible to any one unacquainted with it The fontanelles were still as much unclosed as at the time of birth, there was no apparent thyroid, and there was every indication of cretinism July 26, 1897, the treatment by thyroid gland tablets was commenced by the employment of one half tablet per day, being equal to 15 gm , this small dose had a very marked effect on the first day, producing four copious stools The dose was therefore reduced to one quarter tablet, and then gradually increased to three tablets a day, at the end of a year the child was taking nine tablets a day, had grown 9 4 cm in height and weighed 27 pounds A look of intelligence had made its appearance, and the vocabulary was quite considerable, the fontanelles had closed The child at this time could run about and play The Doctor said that the size and nature of the dose would depend upon the individual case under treatment, but that the thyroid tablets would have to be taken throughout life

Dr **Wm Fitch McCheney** said, in discussion, that the name "cretinism," by custom, is applied to those cases in which there is a congenital deficiency in the thyroid gland, and the name "myxedema" is confined to those cases in which the deficient secretion of the thyroid is an acquired characteristic Where cretinism occurred only occasionally in a community, the term "sporadic" was applied As to the pathology, three principal theories have been advanced to explain the conditions we find, a total absence of the thyroid gland, atrophy of the gland, goiter, in which cases we find a cystic or tumorous growth in the thyroid, the foreign growth limiting the physiologic activity of the gland, and thus preventing the proper amount of its secretion He did not believe that there was often a total absence of the gland, for the reason that so many cases which before death had been pronounced to be without the thyroid, showed on postmortem examination that there was really a rudimentary gland present He thought that atrophy or neoplasmic growth would explain almost all of the cases encountered He said that, as Dr Jellinec had mentioned seeing seven cases of this disease, and as Osler had some short time ago given a résumé of all the cases reported in the American press, which amounted to sixty in all, Dr Jellinec had been very fortunate As to the question of administering the thyroid gland tablets all through life, he did not agree with Dr Jellinec In his opinion, this was not necessary, experience seemed to have shown that if the gland was employed for a time, a certain improvement would result, but that improvement was noticed only up to a certain point, and that beyond that point the further administration of the gland had no effect whatever

Dr **John Wagner** asked as to the details of administration, when the tablets were given and how, whether with meals, before, or after eating, and whether dry or in what form He had had no experience with the thyroid treatment, but he had hoped to get some information from the paper of Dr Jellinec

Dr **Jellinec** said, in reply to the discussion, that he had simply intended to demonstrate a case which he would again show to the Society after it had been under treatment for some time He considered the terms "sporadic cretinism" and "myxedema" as synonymous terms There could be no rule as to the method of giving the thyroid extract, circumstances must determine the method in each case In some cases he gave it in one dose, in the morning dissolved in milk or soup, say of two or more tablets, he gave it in two or three doses in the same solutions He had seen but two of the cases in this country, the others he had met with abroad, where they are very common, so common in fact, that nothing more is now written on the subject Where there was total absence of the thyroid gland, as he thought was often the case, the tablets would have to be taken throughout life, though they could be suspended from time to time, for such periods as the patient could stand without the medicine If the individual was not himself the possessor of a thyroid gland that could secrete, he would have to be artificially provided with this very necessary secretion

Dr **A Miles Taylor** presented a paper on, and a report of a number of cases of

VAGINAL HYSTERECTOMY

There were forty cases in all, with one death, and as the cases were very mixed, many of them being pus cases, the results were good He claimed that they were much better results than could have been obtained in the same cases if abdominal operations had been undertaken in the same circumstances Vaginal section for pelvic diseases was in every way, in his opinion, far superior to abdominal section, except in very rare cases The patient is carefully prepared, when circumstances permit and placed in the lithotomy position, the uterus is then curetted and the instrument put aside and not again used during the operation, the posterior cul de sac is the most convenient point of entrance, generally, and the opening here is easily made The cervix can then be drawn up and the opening dilated, with the patient then changed to the Trendelenburg position an ocular examination can be made that will be fully as satisfactory as the ocular examination by the abdominal incision, for with the use of the proper retractors the vaginal opening may be made as large as the abdominal, and the distance to the parts within is about the same in the two cases The technic of the operation in its various phases was then gone over by the Doctor, and a number of cases reported Some of the cases mentioned are abstracted as follows

Case 1 —Pelvic disease following a miscarriage There had been great pain for a year, and for six months previous to the operation she had been delirious during her menstrual periods When seen she had a temperature of 104, pulse of 120, and great tympanites and tenderness The finger was introduced into the vagina, the posterior cul de sac ruptured, and a great quantity of pus poured forth The pelvic cavity was well irrigated with salt solution, and one tube removed, the other tube had sloughed off and was washed out The opening was packed with gauze, and the patient did well till the fifth day, when her temperature suddenly went up to 105, again rose to 106 at eight o'clock at night, and she died in a few hours Postmortem examination showed the cause of death to be septic cerebral meningitis

Case 2 —Woman of 26 years, married, pain and discharge almost continuously since marriage, three years before, one month before seen, had been operated on for a lacerated cervix and perineum, but with only trifling benefit Operation was performed per vaginam, and on the incision being made a large amount of pus was evacuated, the pelvic cavity was irrigated and a large mass appeared which proved to be the left tube in the guise of a huge pus sac Both tubes were removed and the pelvis irrigated with bichlorid solution, 1 to 8000, followed by salt solution The wound was then packed and the patient made an uninterrupted recovery at the end of the third week She has since remained well and has no pain nor discomfort

Case 3 —Woman of 18 years, married for four months, for two months had not menstruated, had been pronounced pregnant, severe pain came on suddenly when arising from the table The diagnosis of ruptured extra uterine pregnancy was made and operation decided upon at once Incision in posterior cul de sac was followed by free hemorrhage The fetal mass was found and the bleeding point located and tied off, the pelvis was then irrigated and packed and the patient made a good recovery

A number of other cases were reported, and the Doctor then summed up his conclusions as follows The vaginal route is to be preferred for the reasons that there is less shock, less danger, no danger of hernia, it is easier to work on any of the pelvic organs, the incisions are easier, the examination of the pelvis more complete, drainage can be perfect, and it leaves the patient much more comfortable than the abdominal operation, for movement in bed is not prevented after the operation Conservative surgery on the ovaries and uterus was the great desideratum of modern surgery, and it is far easier to make plastic operations on these organs per vaginam than by the incision through the abdominal walls

Dr F B **Carpenter** said that the vaginal operation was not to be preferred in the majority of cases, but in some it was undoubtedly the best There was certainly less shock in the vaginal operation, but when many adhesions had to be broken up the abdominal route was preferable He did not consider that irrigation was a good measure in most cases, and indeed in many cases where there was pus in the tubes, it had been so long retained that it had ceased to be septic pus and, if liberated into the pelvis, could not and did not do any damage He considered the operation per vaginam much more difficult than the abdominal operation, and thought its advantages more than counterbalanced by its disadvantages

Dr J **Henry Barbat** thought that the results of the forty cases reported could not have been better, for the cases were almost all very grave ones, and the occurrence of a single death showed that great skill had been employed He was of the opinion that the special method followed by any operator who had the requisite ability was the best for that man but was not the best necessarily for all men, some men could get better results by the vaginal method, and others found the abdominal method more satisfactory in their hands It was largely a matter of the personal equation In some cases the vaginal operation had much the advantage over the abdominal, but this was not always the case

The officers of the society for the ensuing year were then elected Wm H Davis was elected president, E F Kelly, vice president, Philip King Brown, treasurer, and Geo H Evans, secretary

SELECTIONS

Toxins and Antitoxins —The proceedings of the Royal Society for July 29 contain a communication by Drs C J Martin and T Cherry, on the nature of the antagonism between toxins and antitoxins The authors refer to the discussions of this subject by Behring, Buchner and others beginning in 1894 They refer to Calmette's experiments in 1895 with cobra poison and its antitoxin, which seemed to prove that the toxin of snake venom does not interact with its antitoxin *in vitro*, but only *in corpore*, and therefore its action can not be explained as a simple chemic operation between the two The sum of these and other experiments was that certain measures being found which destroyed either the toxin or the antitoxin, when these measures were applied to a mixture of the two *in vitro*, the one not affected remained active while the other became inert The inference was that the interaction did not take place *in vitro* The authors, however, point out that the absence of any account of the time during which the interaction should be permitted to continue, as a factor in the experiments, vitiates their results, and, while admitting that the same results can be repeated, they consider the conclusions founded on them unjustified, and assert that by modification of the factors—time, temperature and active masses—exactly opposite results may also be obtained Their experiments tend to prove that since the toxin of diphtheria will pass through a gelatin filter, while the antitoxin will not, a mixture of the two *in vitro* would become separated by filtration and the filtered toxin would be active, unless it were previously neutralized by contact with the antitoxin *in vitro* They found that a mixture of the proper neutralizing amounts, when left in contact at 30 degrees C for two hours, was not active after filtration, proving thus that the antitoxin had neutralized the toxin They say "As the experiments are so simple as not to leave any possibility of experimental error, we turn our attention to our existing difference in the conditions under which Calmette and ourselves worked As previously pointed out, Calmette absolutely neglected the possible influence of time, temperature and the relative proportions of the active masses of the toxin and and antitoxin present in his mixture Up to the present we have investigated the value of the factors, time and proportion of active masses, and have shown that these are most important Indeed, by altering either the one or the other, we can produce results which, if these factors be neglected, would lead to diametrically opposite conclusions We have not yet determined the influence of temperature upon the rapidity of the reaction, but our results so far seem sufficiently conclusive to decide the question and leave no room for doubt that the antagonism between the toxins of diphtheria and snake venom and their relative antitoxin is due to a direct chemic action which takes place between them, and further, that the opposite conclusion come to by Calmette and presumably those of Wassermann, Nikanarow and Marenghi, were due to their disregard of the value of time as a factor in such chemic action " It may be remarked, in conclusion, that these experiments, of undoubted scientific value, of Drs Martin and Cherry were conducted in the laboratories of the University of Melbourne, Australia, with the teaching staff of which institution both these young pathologists are connected —*N Y Med Jour*, September 10

Located by Skiagraphy —Dr de Schweinitz has recently reported a case of a piece of steel imbedded in the sclera for two and one half years, localized by the Roentgen rays, according to Dr W M Sweet's method In November, 1895, a piece of steel entered the eye, probably near the corneal margin at the inner side In March, 1896, a radiograph of the eye indicated that a foreign body was located in the orbit at the upper nasal side It was deemed expedient to make search for it In February, 1898, when Dr de Schweinitz first saw the case, V = 6 20, eye quiet, marks of a previous iritis, capsule and lens partly opaque, floating opacities in the vitreous With undilated pupil no foreign body could be detected in the vitreous or in the coats of the eye A series of skiagraphs located it 11 mm below the center of the cornea 3 mm to the nasal side and 10 mm back of the cornea A second series taken while the eye was rotated as far as possible downward shows a movement of the body practically equal to the extent of the rotation of the eyeball downward This would seem to determine the sclera as the site of the body With wide pupil dilatation a small patch of choroidal atrophy streaked with pigment and with a black center, exactly in the position indicated by the radiographs, could be seen Just over this location the sclera was sensitive to the touch of the probe The field of vision was markedly contracted, and there was uncertain limitation opposite where the body was supposed to lie The patient refused to permit an exploratory operation Dr Sweet has had an interesting experience in the localization of foreign bodies in the eyeball by his apparatus The various methods that have been employed resolve themselves into a determination of the angle of the X ray tube with the foreign body and with one or more dense objects situated near the eyeball Approximate results have been obtained from a study of the shadow of the foreign body in relation to the shadows of the orbital bones, but owing to the variations in the position of the eyeball, which have been shown by the investigations of Cohen to amount in healthy individuals to as much as 10 mm behind the edge of the orbit and 12 mm in front of the same, this method does not equal the accuracy possible by other means Whatever form of indicating objects is used in working out the position of the foreign body, certain factors are essential to accurate results 1 A tube should be used which may be run at high vacuum, in order that the rays readily penetrate the bones of the head 2 The patient should be in the recumbent posture to ensure steadiness of the head and body 3 The visual axis should be parallel with the plane of the plate at the side of the head, or if it deviates, the angle should be measured and allowed for in the determinations 4 The situation of the indicating objects with respect to the center of the cornea in each individual case should be known, otherwise the determination of the location of the foreign body will vary with the varying situation of the eyeball in the orbit in different persons 5 The angle of the tube with the indicating object must be accurately measured The two indicators being parallel with each other and with the plate, the distance the shadow of one of the balls is posterior to that of the other is the measure of the distance that the source of the X ray is carried to the front The method has been employed in a number of cases of suspected foreign bodies in the eyeball and orbit, in seven of which the shadows of the bodies were obtained on the plate and their position indicated Three of the cases were gunshot injuries, in which the findings were not verified by subsequent operation —*Maryland Medical Journal*

19

PRACTICAL NOTES

Telelectro Therapeutics—Gerest of Lyons cures hysteric paralysis by a series of electric discharges in the neighborhood of the patient, without contact The effect is evidently similar to that of suggestion —*Munich Med Woch*, November 1

Dry Treatment of Prurigo—The parts are dusted with a power of oxid of zinc, salicylic acid and talcum, and covered lightly with a protecting bandage changed every forty eight hours In two weeks there is no trace of the affection —A Monti *Semaine Méd*, November 2

Orthoform for the Larynx—Kassel prevents the coughing that usually follows the insufflation of the dry powder in anesthetizing the larynx, by injecting it in an emulsion of 25 parts orthoform to 100 parts olive oil, with the ordinary larnygeal syringe —*Munich Med Woch*, November 1

Danger Signal in Chloroform—R Lehmann states that if the patient keeps his eyes completely or partially open during the narcosis, and opens them whenever you try to close them, you can expect some accident, more or less severe This phenomenon was noted 21 times in 329 anesthesias, and in each one there were either continuous vomiting, arrested respiration, peculiarly protracted agitation, or asphyxia and syncope, requiring artificial respiration —*Semaine Méd*, November 2

Insomnia in Advanced Arteriosclerosis—Professor Edgren of Stockholm has been very successful in inducing refreshing sleep without morphin, with rectal injections at night of antipyrin, 1 gm, diuretin 1 to 2 gm, or chloral 2 to 3 gm, in the advanced stages of arteriosclerosis when the heart suffers and insomnia is frequent, with more or less dyspnea, vertigo, restlessness, even delirium and hallucinations —*Semaine Méd*, October 26

Sero therapeutics of Tuberculosis—Maksutow has obtained a serum from the juice extracted from a tuberculous abscess on a cow, chopped fine, in a aqueous, alcohol glycerin solution Injected after filtering, into guinea pigs and goats, it prevented infection and arrested lesions already under way Every test was successful —*St Petersb Med Woch*, October 29

Accidental Nervous Enteritis—When, in consequence of exposure, violent emotion, insomnia, excesses, or other causes affecting the alimentary canal, there is distress and pain in the epigastrium and more or less diarrhea, the following prescription will be found agreeable and promptly effective Tincture of opium x gtt, orange flower water 20 gm, old rum and simple syrup āā 40 gm Mix in a glass of water and drink rapidly —*Journ de Méd, Paris*, October 30

Ankle Clonus in Tabes—Babinski considers the partial or total abolition of the ankle clonus an indication as important in the diagnosis of tabes as Westphal's sign In most cases of tabes there is more or less disturbance in both the knee jerk and ankle clonus, and in the rare cases in which a single reflex is affected, it is as liable to be the one as the other He also differentiates true sciatica by the abolition of the ankle clonus, the patient kneeling on a seat —*Progrès Méd* October 29

Gelatin in Aneurysms—This treatment, described in the JOURNAL, page 1180, has caused two deaths, one patient dying from fresh tuberculosis a few months later, probably caused by compression of the pulmonary artery by coagulations The death of the second patient is more directly to be attributed to the treatment, as it produced coagulations in the neck and the rapid ischemia of encephalus Huchard, therefore, advises weak concentrations, 8 to 10 days intervals and the patients in absolute repose "With these precautions, gelatin is a rational and valuable means of assisting nature in her curative processes "—*Bulletin de l' Acad de Méd*, October 25

The Migrainator—It is proved by experience that headache may sometimes be relieved by compression of the head, persons suffering from headache instinctively put their hands on their temples and feel great benefit therefrom To make this compression more efficacious, Dr Sarason has suggested an instrument, which he describes in the *Deutsche Med Woch* It consists of two plates, which are firmly pressed on the temples by a spring, and the device looks very like a double truss By the compression of the temporal arteries the circulation of the blood in the head is regulated and pain is relieved, especially in angiopathic hemicrania The apparatus is termed a "migrainator " It is made in Munich —London *Lancet*, October 8

Ringworm of the Scalp Treated by Sodium Chlorid—Dr Perkins writes to the London *Lancet*, that for fifteen years he has treated every case of ringworm which has come under his care with chlorid of sodium, and with complete success in every case The first case in which he used this treatment was a chronic one of five years' standing The child was well in three weeks and had no return Many of the cases which have been attended since have been of chronic character His method is the following Have some chlorid of sodium finely powdered and then mix with a little vaselin to make an ointment The affected part having been shaved, rub this ointment in well night and morning until the place is sore, this takes from two to four days Then use some simple application to aid the healing of the part When well from the soreness, the hairs will be found growing healthily and the tinea trichophyton destroyed

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE, INCLUDING POSTAGE

Per Annum in Advance	$5 00
Foreign Postage	2 00
Single Copies	10 Cents

In requesting change of address, give old as well as new location

Subscriptions may begin at any time and be sent to

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION
No 61 Market Street (Occidental Bldgs), Chicago, Illinois

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION

This is obtainable at any time by a member of any State or local Medical Society which is entitled to send delegates to the Association All that is necessary is for the applicant to write to the Treasurer of the Association, Dr Henry P Newman, 100 Washington St Chicago Ill sending him a certificate or statement that the applicant is in good standing in his own Society signed by the President and Secretary of said Society Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership

On receipt of the subscription the weekly JOURNAL of the Association will be forwarded regularly

Gentlemen already members of the Association should send their annual subscription to the Treasurer or direct to the JOURNAL office

All communications and manuscript of whatever character intended for publication in the JOURNAL, should be addressed to the *Editor* and all communications relative to the business of the JOURNAL proof sheet returned, or in regard to subscriptions should be addressed to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 61 Market Street (Occidental Buildings), Chicago

Original communications are only received with the understanding that they are exclusively contributed to this JOURNAL

SATURDAY, NOVEMBER 26, 1898

ON THE BACTERICIDAL FUNCTION OF THE LIVER AND THE ETIOLOGY OF PROGRESSIVE HEPATIC CIRRHOSIS

Some time ago an editorial summary of recent investigations into the micrococcal origin of common cirrhosis of the liver, by ADAMI of Montreal, appeared in the JOURNAL Since then ADAMI has continued to faithfully study the subject, and from a communication to the *British Medical Journal*, Oct 22, 1898, it is seen that the results which he has obtained modify to a certain extent his earlier conclusions and throw a new light upon a hitherto but little recognized function of the liver, namely, the bactericidal It will be recalled that he demonstrated the presence in cirrhotic livers of certain diplococci and peculiar degenerated bacterial forms Subcultures from an organism isolated from a cirrhotic liver showed that it concerned an attenuated form or a variety of the colon bacillus

ADAMI is not able, after weighing all the facts to be taken into consideration, to separate the micro organisms of cirrhosis from the main group of colon bacilli Inoculating broth cultures of the attenuated, as well as the ordinary form, into the circulation, he found that in twenty-four hours the liver cells were crowded with diplococcal organisms They were present in greater numbers in the liver than in the spleen, kidneys, or other organs, and yet when cultures were made within a few hours after inoculation but few colonies were obtained from the liver, the cells of which were crowded with bacteria, whereas abundant growths resulted in the cultures made from the spleen, heart's blood and kidney In these early cases he found the bile to be sterile

From these observations it is clear that the liver cells do not act merely as excretory agents for the bacilli, but have pronounced bactericidal properties The bacilli or diplococci seen in the liver were clearly, if not dead, at least incapable of proliferating to any great extent outside the body The diplococcal forms, as well as other peculiar bodies, are looked upon as a result of degenerative changes In certain cultures outside of the body, ADAMI also found that the bacillus took on the form of diplococci of fair size, strings of spheric bodies surrounded by a common substance can also form These bodies are most easily demonstrable when the bacillus is grown under conditions unfavorable for active proliferation

ADAMI then examined sections from the livers of a large number of postmortems, in which there were no changes characteristic of cirrhosis, and he was greatly surprised to find that these livers also contained, with scarcely an exception, these shadows of the colon or allied bacilli and, furthermore, that some of the fine brown pigment commonly seen in apparently healthy liver cells is undoubtedly to a certain extent the result of destruction of colon bacilli or other organisms Hence, he concludes that the colon bacilli in healthy individuals frequently find their way into the liver cells from the portal circulation, and that one of the functions of the liver is to destroy these organisms through the action of the liver cells

In cirrhosis of the liver the number of bacillary remnants and corpses is much greater than in the healthy liver, and this fact must be considered as pointing to a more or less direct connection between the microbes and the cirrhotic process The facts obtained from the study of Pictou cattle disease in which, as alluded to in our former editorial, there is a marked cirrhosis of the liver, also favors the relationship between the microbes and the cirrhosis ADAMI has not yet been able, however, to produce cirrhotic changes in laboratory animals on simple inoculation of the colon bacillus, so that if there is any connection between the organisms found in the liver and the interstitial proliferation, there must be other factors at work ADAMI suggests that when the liver cells are lowered in their vitality, as for instance by the use of alcohol, then the bacilli finding their entrance into the liver in larger numbers than usual, perhaps on account of the existence of chronic inflammatory changes in the digestive tract, which is a very familiar feature in the clinical history of cirrhosis in man, may produce the progressive proliferative changes characteristic of cirrhosis of the liver ADAMI has undertaken experiments in which he is employing cultures of the colon bacillus alternately with alcohol, for the purpose of showing whether or not this condition of pathogenic agents may throw any further light upon the cirrhosis problem

Leaving out of consideration, for the time being, the bearing which Adami's observations have upon the cirrhosis problem, it would seem that a very important result of his faithful labors is the demonstration of the bactericidal function of the liver above alluded to It will be recalled that Futterer of Chicago has recently published the results of certain investigations[1] which show that bacteria introduced into the general or portal circulation, are eliminated largely through the liver by way of the bile in an almost incredibly short time after their introduction From his results it would appear that the liver exercised an excretory function principally, whereas from Adami's results the bactericidal properties of the liver cells were brought forward quite clearly In Futterer's experiments the colon bacillus, however, was not used, and it may be it will be found that the bactericidal functions of the liver are concerned more particularly with ridding the organism of this microbe

TYPHOID FEVER IN MILITARY CAMPS

There is an undercurrent of belief among our older medical men that the mortality from disease during the War with Spain was not relatively so great as that from which our volunteer troops suffered during the Civil War and this belief is very generally shown by the veterans of the Grand Army, who recall the rapidity with which the original strength of their regiments melted away under the hardships and exposures of life in camps long before they had an opportunity of coming in contact with the enemy The letter published in our last issue from Deputy Surgeon General Smart, gave a solid groundwork for this belief by defining very clearly the want of parallelism in the monthly lines of mortality in the two wars Now that we have followed the labors of our army medical men in caring for the sick of the past few months, the figures which Dr Smart presents from the old records have a deeper significance to us than they would have had prior to this recent experience

We have all along had a realizing sense of the danger to which our troops would be exposed from the infection of typhoid fever In our issue of June 4, when the public was viewing with alarm the possible ravages of yellow fever in the ranks of the volunteers, we took the position that the camp fever which was to be feared was typhoid and not yellow fever The events of the succeeding months, both at Santiago and in the large camps in this country, have demonstrated the accuracy of our prognosis, which was the certain spread of the disease among the hastily raised and undisciplined regiments unless medical and line officers of every grade devoted themselves earnestly and intelligently to perfect the sanitary conditions of their camps This was not done In June and July typhoid fever appeared sporadically in certain of the regiments in these large camps In some instances the disease was recognized as having been imported from State camps and in others to have been due to infection from outside the regimental lines One fact is prominent that it was not the result of an infection of the general water-supply, because had it been so the outbreak would have been fulminant, as in the epidemic some years ago at Bethlehem, Pa, when its water supply became infected The care given to the water-supply of the camps by the Quartermaster's Department at the instance of Surgeon-General Sternberg may therefore be credited with the preservation of the troops from such an epidemic attack But in August the prevalence of the disease became so increased as to call for a removal of the causes Investigation by qualified inspectors determined that the increased prevalence had its origin in the general infection of the camp sites from the sporadic cases which had occurred, this general infection having become possible owing to overcrowding in the camps and the neglect of sanitary precautions in the care of the sinks, and the charge against the ordinarily insignificant house fly of being an active agent in the propagation of the disease appears to have been accepted by those who had most experience of the conditions Removal from the infected sites was immediately recommended and adopted as the best means of lessening the prevalence and ultimately subduing the outbreak In September a marked diminution in the number of cases was observed

Up to this time it has not been possible to obtain any data for a comparison with the spread of this fever among the young men who volunteered in 1861, because reports have come slowly into the office of the Surgeon-General, owing to the difficulties encountered by volunteer surgeons in making out official papers The published records show that from May, 1861, to May, 1862, in which period are included both the maximum of prevalence and the maximum of fatality of typhoid fever, there were 30,550 cases and 5171 deaths reported from an average strength of about 236,000 men or less than one-half of the 500,000 three-years' men then in the service Among these cases are included those lighter febrile attacks which were recorded by the surgeons as simple or common continued fever, but which would now be regarded and reported as mild cases of typhoid fever From the Surgeon-General of the Army we learn that up to September 30, 1898, there were reported 12,125 cases of typhoid fever, 640 of which were fatal, among commands aggregating about 167,000 men, or somewhat over 60 per cent of the troops in service Now if we calculate the number of cases and deaths which would have occurred in 167,000 men in five months if the rates of 1861-62 had prevailed in 1898, we would find that instead of having 12,125 cases we would have had only 8308, and that instead of having only 640 deaths we would have had 1402 deaths From this we find that during the recent experience of our armies the prevalence of typhoid fever was greater by one-third and the deaths less by 55 per cent than during the Civil War

---

[1] Medicine, 1897 and 1898

The fatality of typhoid fever, including the common continued cases aforesaid, during the first thirteen months of the Civil War was 1 in 6 cases or about 17 per cent The fatality of the typhoid fever in our military camps and hospitals during the present year was 1 in 19 cases or a little over 5 per cent This is certainly a most remarkable rate for typhoid fever, especially when consideration is given to the want of suitable medicines, food, nurses and shelter which, according to newspaper reports, characterized the service of the military hospitals—regimental, division and general This low mortality rate is in itself sufficient to throw doubt upon all the general charges of neglect of the sick soldier and inadequate provision for his treatment It is indeed so low as to leave a broad margin of doubt to overlap the reported cases and to suggest the inquiry whether every case reported as typhoid was in reality a case of that grave disease We know that during epidemics of yellow fever, cases of remittent fever frequently increase the number of those reported as smitten by the prevailing disease Something analogous may have taken place during the recent excitement concerning camp typhoid

Our military brethren have learned much recently regarding the propagation of typhoid fever in the camps of newly raised troops They have demonstrated the importance of strict discipline and military sanitation in the preservation of the strength of their commands The typhoid epidemic of August last has been checked by radical measures involving the reorganization of practically all the troops in the service, but as the susceptibility of these troops to the typhoid infection has not been exhausted, the task of preserving them from such losses as were incurred during the Civil War yet remains before the Medical Department of the Army Many months will have to elapse before we can gauge accurately the result of their efforts to protect the men from the infection of camp typhoid

TIME AND MANNER OF THE ADMINISTRATION OF DRUGS

Search for the causation of disease has so engrossed the attention of the medical profession that but little time is devoted to the proper manner of the restoration of the equilibrium to the normal Surely to properly diagnose a case is not all of a physician's duty, for then the patient may die What the patient desires most is to get well as quickly as possible Those who practice irregular medicine have not been slow in learning this prejudice of the people, and have turned it into a financial gain to themselves

Good-tasting medicine is a great catchpenny to homeopaths, for if it does no good it pleases the parents and thereby diverts money from the hands of physicians to the pockets of the irregulars This practice is common and is most appreciated by those physicians who live in cities How often do we hear it said that the reason so-and so were 'converted" was because they did not like to take the bad-tasting medicine of the "old school" doctors Those who carry out this line of thought logically and naturally think If the weak or good-tasting medicine of the homeopaths cures as many people as the other, then why take any medicine at all? And from these premises it would not be far to believe the tenets of Christian scientists, because, forsooth, it is a matter of faith anyway

An art that is yet to be learned is the time for the administration of drugs What good will it do a patient to give a highly nutritive diet, if asafetida, cod liver oil, guaiac or quinin is to be given immediately before meals? What good will a saline purgative do when given immediately after a meal? If the patient is awakened during the night to take nourishment and medicine at the same time, what good will he derive from either? Our sense of taste and smell must at least serve some purpose, for our appetite craves for that which is good In disease, the appetite is held in abeyance, perverted and most uncertain Drugs do not furnish nourishment, they simply act upon the force generated by the nourishment taken Then why destroy this force? There then must be a proper time, and there must be a proper manner of giving medicine

Elegance in pharmacy should be encouraged The art of prescription-writing should be learned In this respect we should copy after the French, who are noted for their elegance in pharmacy Gelatin capsules serve a most valuable purpose to the regular physician, for unpalatable drugs may thus be taken without being tasted Compressed triturates should be received with great joy, for they demonstrate the energy and enterprise of the "old school" doctors All drugs, however, can not be put in tablet form Some drugs are volatile and others hygroscopic therefore solutions must always have a place The art of disguising the taste of unpalatable drugs so that the patient can or *will* take them is one not easily acquired by the profession, because it is largely governed by manufacturers of patent medicines With the child, a solution of magnesium sulphate or an emulsion of castor oil causes disobedience, and frequently the mother will not give them Some children will vomit when given too sweet drugs, while the adult loses his appetite Half an ounce of myrrh to a four-ounce mixture is usually sufficient

Alcoholic extracts, such [illegible] dica cubebs or eucalyptus, precipit[illegible] of water, therefore should be [illegible] ution quinin, bromids, an[illegible] ng fl[illegible] extracts may be rem[illegible] a syrup containing aromatics, such as the elixir curacao of the National Formulary Oleorisins are unsavory and frequently render a patient most rebellious, The taste of copaiba, cubebs and sandalwood remains in the mouth for hours There is a little art required in dispensing these substances in gelatin capsules, as follows Place the oil in the capsule by means of a pipette and seal with an alcoholic ethereal solution of balsam of tolu Rochelle or epsom salts are very soluble and should be dissolved in a small quantity of water and taken, and subsequently a large amount of water given if desired Guaiac has come down to us from former times as a valuable remedy in rheumatism, gout, lithemia, etc , but there are few text-books which tell of its proper administration Here again the manufacturers of patent medicines pervert legitimate pharmacy from its proper channels, because it is easier to give something else than to combine the guaiac in lozenge form by means of the confection of rose and flavored with oil of lemon and cloves In cod liver oil we have one of the best known tonics, yet how often do we find that it can not be borne by the patient To disguise its taste and render it palatable frequently baffles the physician, so that if one of the proprietary emulsions is not used the remedy may be abandoned Cod liver oil that has become rancid can never be disguised, and will in nearly every case disturb the stomach, so its character should always be under the surveillance of the attending physician In most cases an emulsion that is borne well can be prepared by taking the yolks of three eggs, triturating in a mortar for *at least* fifteen minutes, and then adding the oil teaspoonful by teaspoonful until the whole has been incorporated The yolks of three eggs will suffice for a quart of finished emulsion Probably the best ingredient to disguise its taste is bitter almond water, usually an ounce being required for a quart of emulsion

While these few remedies are not all that might receive attention, it is hoped that a few hints may be thrown out which will benefit the general practitioner and keep legitimate pharmacy within proper bounds

THE DANGER OF CHLOROFORM ANESTHESIA IN OPERATIONS UPON THE THROAT

It has become the habit of many surgeons, even among those opposed to the drug, to administer chloroform in operations upon children requiring an anesthetic The ease of administration, the quickness with which the child becomes unconscious, the small quantity of chloroform necessary to procure unconsciousness, the rapidity with which they emerge from under the influence of the drug, the inconsequent after-effect, have all held us to this view Of the surgeons who have made diseases of the throat their chief study, many no doubt have been worried not infrequently over the dangerous symptoms developed by the child during the administration of chloroform, even if they have not been so unfortunate as to have had a fatal accident Especially have these alarming symptoms been noted in children afflicted with enlarged tonsils or adenoid vegetations in the vault of the pharynx The writer has given chloroform to a fair number of children suffering with adenoids, but never without great anxiety and with more than usual caution, so badly do these children act Probably not one out of ten takes the anesthetic in a manner that might be called normal The writer has noticed often at the very marked outset, pallor of the face and a rapidly progressing diminishing frequency of the pulse rate, so much so, indeed, that it sometimes seems to the palpating finger that the heart is never to beat again, and this in spite of the fact that the chloroform is given drop by drop and very slowly The pupils remain well contracted If the anesthetic is continued serious symptoms usually develop, if discontinued, as the patient comes from under, the pulse gradually regains its normal rate and the pallor disappears It may be that this same misfortune will again happen if the drug is readministered Frequently the operator becomes desperate and, disregarding the old law of never beginning an operation when chloroform is the anesthetic, before the patient is completely under, proceeds with curettement, adding to the danger of the child

HINKEL, in the *New York Medical Journal* for October 29, reports a death after the operation for adenoids with chloroform as the anesthetic, and has collected from the literature seventeen more cases during the past five years His case was an anemic boy of six years with a lymphatic constitution The anesthetic had been given by a skilled man, one who had had experience in just this class of cases and was consequently more than usually careful The operation had been successfully terminated, "when suddenly the boy gave a few hurried shallow gasps and respiration ceased The pulse had disappeared and no cardiac impulse could be felt or heard, the pupils were dilated" Everything was done that could be done to restore the heart and respiration, but without success

The discovery of eighteen authentic fatalities (and who knows how many other deaths have occurred from the same cause, not reported?) is a most valuable contribution to laryngology, showing, as it does, that the administration of chloroform to this class of cases is dangerous and should be entered into with the greatest care and with all appliances for restoration close at hand Two of the eighteen died before the operation commenced, this, combined with the fact above mentioned, that most of the patients take the drug badly from the start, would seem to lead to the belief that there is some condition of the constitution that makes it intolerant of chloroform vapor even in small doses HINKEL, who has looked up the literature of the subject very closely, makes the following statement compiled from the writings of Kolisko, Paltauf, and others "It has been found postmortem in a number of cases of sudden death from slight causes that there was present hypertrophy of the lymphoid tissue throughout the body, including the tonsils, the lymphoid structure at the root of the tongue and the nasopharyngeal adenoids for which we so frequently operate The thymus gland was persistent and often very large, and the intestinal follicles were markedly hypertrophied In addition there were frequently present a dilated heart not dependent on valvular lesions and at times a narrowing of the aorta with small size of the peripheral vessels This condition, which has been called *habitus lymphaticus*, was found among others in a number of cases of death during chloroform administration People so constituted seem to have little power of resistance to comparatively slight shocks Nevertheless they may be of robust physique, though usually there are evidences of developmental retardation" All throat specialists are familiar with this very common patient In addition to the adenoids, there is usually hypertrophy of the faucial tonsil, the glands of the neck are readily palpable, the complexion, though usually exquisite, may be marred by excoriations around the nostrils, the result of chronic nasal discharge, there is frequently an eczematous eruption behind the ears, blepharitis marginalis is by no means uncommon

Another point of considerable importance has been worked out by Hinkel that during the last five years, the period covered by his eighteen cases of chloroform death, but six deaths have occurred from the operation itself, and all these as a result of hemorrhage, usually secondary, almost always in patients the subjects of hemophilia

The practical lesson we must learn from this careful study is that patients of the so called lymphatic temperament should not as a rule be anesthetized with chloroform for any operation and that in operations upon the throat this rule becomes imperative

THE STRUGGLE FOR EXISTENCE BETWEEN THE HUMAN ORGANS

One of the problems actively discussed in biology is the origin of the atrophies and hypertrophies which mark both evolution and its reverse phase degeneracy The fact was early recognized by biologists that man is a compound animal in whom certain structures are endowed with their own nervous system, which is under control of the central nervous system As has been pointed out by E S Talbot ("Degeneracy Its Scope, Causes and Effects'), every vertebrate is an aggregate whose internal actions are adapted to counterbalance its external actions Hence preservation of its movable equilibrium depends upon its development and the proper number of these actions The movable equilibrium may be ruined when one of these actions is too great or too small, and through deficiency or need of some organic or inorganic cause in its surroundings Every individual can adapt itself to these changeable influences in two ways either directly, or by producing new individuals who will take the place of those in whom the equilibrium has been destroyed Therefore, there exist forces preservative and destructive of the race Since it is impossible that these two varieties of force should counterbalance each other it is necessary that the equilibrium should re-establish itself in an orderly way As there are two preservative forces of every animal group—the impulse of every individual to self-preservation and the impulse to the production of other individuals—these faculties must vary in an inverse ratio the former must diminish when the second augments Degeneration constitutes a process of disintegration Hence if the term 'individuation be applied to all the processes which complete and sustain the life of the individual and that of generation, to those which aid the formation and development of new individuals individuation and generation are necessarily antagonistic, as Herbert Spencer has shown

Vertebrate embryos, which are all of a common type at their origin, assume, as Von Baer has demonstrated successively, a number of common forms before definitely differentiating Supernumerary organs exist, as Dareste points out, in these common forms at one phase of embryonic life This community of embryonic types and this last fact, explains repetition of teratologic types in vertebrates This community of origin, moreover, indicates that the higher vertebrate embryo contains in essence the organs and potentialities of all the lower vertebrates, and that under the influence of heredity or accidental defect an organ or structure or function constant in a species may be lacking in an individual without the necessity of explaining the immediate effects by distant atavism

Varying conditions must stimulate these embryologic potentialities at the expense of the later acquired and more typic human organs The Cohnheim theory of cancer, for example, is an illustration of the application of this principle From this results a struggle for existence on the part of organs and structures which, early observed by Aristotle, Goethe and St Hilaire, was forcibly shown by Roux two decades ago Roux ("Der Kampf der Theile in Organismus") while also admitting determination by heredity points out that there are surrounding forces always necessary not simply the condition of activity by an essential element of the final product He thus harmonizes the extremes of Weissmann and Goethe by the fact of an internal or physiologic struggle for existence between the organs, the cells and the protoplasmic molecules of the organism This unsimilarity of parts makes it impossible to establish laws of heredity which shall govern details of function as to the last cell or molecule as in any army, the commander in-chief does not give special orders beforehand affecting every private in the ranks There must be a possibility of adaptation to surroundings, especially in details which, too, are more easily changed than events on a larger scale

How is this freedom of organs and of adaptation obtained? The principle that lies back of all development of tissues and organs is over-compensation of what is used, a quality which permits self-regulation and is really a necessary pre condition of life Living matter, unlike inorganic matter, presents an external continuity in spite of change of conditions To effect this, assimilation must always be in excess (over-compensation) for if less than consumption, the organism comes to an end of itself If equal conditions result, change and nourishment will fail or injurious events will cause destruction Continuance can only be assured when more is assimilated than is consumed Fire, for example, assimilates more than it uses, i e, it always has energy left over to kindle new material Fire would (like life) become eternal if it did not use up material quicker than other processes can make them In the same way organisms assimilate more than they can consume, but they do not turn all they use to assimilation, energy remains over by which the process performs something This work-product controls the excessive assimilation which otherwise would come to an end by not having sufficient material to assimilate The more complex processes of life are, hence, essentially, as COLIN A SCOTT remarks (*American Psychological Journal,* 1888), a radiation of assimilation which, although not identical with combustion, is similar to it, the load which it carries favoring its continuity This radiation, load or work-product becomes directed by natural selection to keep up a supply of food primarily by moving the assimilating mass Performance of function over and above assimilation is just as much a condition of continuous assimilation as assimilation is of performance On the other hand, there comes to be an inverse relationship between growth and production (within limits), and capacities result which, although they use up material, do not in themselves increase assimilation The course of development consists in properly directing this work-product This so far represents merely a continuous productibility of function in connection with assimilation But a productibility which is stored up and discharged by an outer stimulus of environment will be much more economic and will give rise to what we find as reflex excitability When this reflex work-product dominates, according to circumstances, function will sometimes be greater and sometimes less If, under these conditions, assimilation keeps on continuously, there must sometimes be an overplus, sometimes a balance and sometimes an excessive function, death, and thus elimination To avoid this last, it is necessary that assimilation should depend upon use or upon a stimulus which use calls forth From the psychic side stimulus is recognized as hunger

This kind of process, where stimulus is an indispensable factor, is more special and limited than the more general process of assimilation plus movement, etc, but has characteristics which favor it greatly in the struggle for existence Connected with the most complete self-regulation of functioning is the greatest saving of material While those parts, according to their use, are strengthened and grow, the unused degenerate, and the material for their substance is saved This kind of process unites the greatest economy with the highest functioning of the whole, but at the cost of the independence of the parts Senescence becomes thus a result in differentiation in which the parts exist merely on account of the function which they perform for the whole The senescing organs wither up like State officials after pensioning, and may even descend in this condition from generation to generation, a fact which often allows a fresh start in development During the course of a lifetime the organism moves from a more general, more easily impressible condition to one more perfectly mechanized Through a long period it becomes, through the continuous working of a given stimulus, more completely adapted to itself and also more differentiated, and thereby more stable, so that an always increasing opposition is formed to the additional development of new forms and characteristics This principle, known as the law of economy of growth, governs the relations of the organs to each other, the operation of the principle whereby one structure is sacrificed for the development of another This, as already stated, was pointed out first by ARISTOTLE, as OSBORN has shown ("From the Greeks to Darwin") GOETHE first clearly enunciated it in 1807, and it was urged with additional emphasis by ST HILAIRE in 1818 In a general way, therefore, as DOHRN has shown, this principle holds good of man not only as an organic unit, but as a compound organism

Degeneracy, according to RAY LANKESTER, is a gradual change of structures by which the organism becomes adapted to less varied and less complex conditions of life The opposite progressive process of elaboration is a gradual change of structure by which the organism becomes adapted to more varied and complex conditions of existence In elaboration, there is a new expression of form corresponding to new perfection of work in the animal machine In degeneracy, there is a suppression of form corresponding to the cessation of work Elaboration of some one organ may be a necessary accompaniment of degeneracy in all the others This is very generally the case Only when the total result of the elaboration of some organs and the degeneracy of others, is such as to leave the whole mass in a lower condition, that is fitted to less complex action and reaction in regard to its surroundings than is the type can the individual be regarded as an instance of degeneracy These degeneracies appear at varying periods, since struggles for existence on the part of the different organs and systems of the body are most ardent during periods of body evolution and involution During fetal life, during the first dentition, during the second dentition (often as late as the thirteenth year), during puberty and adolescence (14 to 25 years), during the climacteric (40 to 60 years), when uterine involution occurs in woman and prostate involution to man, and finally, during senility (60 years and upward), during all these periods degeneracy may be shown by mental or physical defect, a congenital tendency to which has remained dormant until the period of stress These defects may be such biochemic alterations (undemonstrable by existing methods) as lead to diminished inhibitory power or other altered function or to secondary pathologic or teratologic change of decidedly demonstrable nature Organs and structures checked at a certain phase of development may pursue a course of development differing from that indicated in man, but further outlined in other vertebrates

Are the results of this contest for existence always malign? According to the accepted principle of natural selection this should not be so, since the struggle creates variations of value or not according to the environment

As HARRIET ALEXANDER points out (*Medicine*, 1896), since degeneracy is a process of evolution, leading to alteration of form because of cessation of inhibitions in certain directions resultant on diminished work, it logically follows that since diminished functionating precedes change of structure, increased functioning must check the change of structure in its biochemic stage Nay, more, it is evident that the structural elaboration due to degeneracy may be retained while the degenerate structures resume their higher functions Hence the degenerate race ranks higher in evolution because of the utilization of the beneficial variations due to degeneracy The influence of this principle is increased by the fact that the majority of the children of degenerates inherit a tendency to degeneracy rather than degeneracy itself This is also the view of HUXLEY, who expresses the opinion that genius is innate capacity of any kind above the average mental level From a biologic point of view a genius among men stands in the same position as a "sport" among animals and plants, and is a product of that variability which is the postulate of selection, both natural and artificial On the general ground that a strong and, therefore, markedly abnormal variety is, *ipso facto*, not likely to be so well in harmony with existing conditions as the normal standard (which has been brought to what it is largely by the operation of those conditions), a large proportion of "genius sports" are likely to come to grief physically and socially, and the intensity of feeling which is one of the conditions of genius is especially liable to run into insanity This position of HUXLEY contains the principle which has become of late years so dominant in researches as to the origin of genius In newspaper science, the theory of the degeneracy origin of genius is credited to NORDAU's investigations This newspaper claim for NORDAU (repudiated by himself) is supported even by medical journalists The editor of the *Medical Record* gives the following rather emphatic endorsement of the newspaper theory as to genius

"MAX NORDAU's startling theory that genius is only a form of degeneracy, although not accepted in its entirety, is yet regarded by many as worthy of some consideration " With all his newspaper medical lore, or perhaps because of it, the editor of the *Record* exhibits an astonishing forgetfulness as to the origin and antiquity of the theory of genius being a degeneracy

This theory is a very old favorite with mediocre intellects As KIERNAN has shown (*Alienist and Neurologist*, 1892), this doctrine, early in the history of the race, obtained dominance through a natural evolution of arts, sciences and religions from fetichism Phenomena manifested by fetich priests (of the SHAMAN type) so closely resembled epileptic insanity in its frenzies and visions, that the two states were long regarded as identical, whence the term *morbus sacer* The supernatural influences, which in current belief underlie epilepsy, were at the outset malign or benign as they were offended or placated They became benign, and the insane were under special protection of a deity, as in Mussulman countries Later still, the demon possessions theory gained dominance and at length the demon sank into the disease Throughout all this evolution the belief in an inherent affinity between insanity and genius persisted In ARISTOTLE's day the disease notion was becoming dominant, yet he says that under the influence of head congestion persons sometimes become prophets, sybils, and poets Thus, MARK, the Syracusan, was a pretty fair poet during a maniac attack, but could not compose when sane Men illustrious in poetry, arts and statesmanship are often insane like AJAX or misanthropic like BELLEROPHON Even in a recent epoch similar dispositions are evident in PLATO, SOCRATES, EMPEDOCLES and many others, above all, the poets According to PLATO " Delirium is by no means evil, but when it comes by gift of the gods a very great credit In delirium the sybils of DELPHI and DODONA were of great service to Greece, but when of cold blood were of little or no value Frequently, when the gods afflicted men with epidemics, a sacred delirium inspired some men with a remedy for these The muses excite some souls to delirium, to glory with poetry heroes, or to instruct future generations "

DEMOCRITUS, whose biologic [researches are well-known, was also of opinion that genius was associated with insanity when manifested in poetry HORACE compressed the sentiment of his day, as to genius, into lines later paraphrased by DRYDEN

Great wit to madness nearly is allied,
And thin partitions do their bounds divide

This Horatian doctrine long had wide-spread vogue among Philistinish mediocrities (from envy of any superiority) and among morally defective geniuses from a desire to excuse faults and vices

The superficial resemblances which the misoneism of mediocrity found to exist between the emotional enthusiasm of the intellectual stir of the poet and the opposite state of hypomaniac emotional exaltation, as well as that seeming to exist between the rapid finely graded logic of the sage and disjointed saltatorial reasoning of the paranoiac, may have helped to fix more strongly the doctrine on the minds of these who accepted it SENECA expresses the opinion that no genius exists without an admixture of madness MONTAIGNE and BURTON (the "Anatomy of Melancholy") advance similar views SWIFT seriously makes, with grim irony ("Tale of a Tub" dissertation on madness), the proposal that the world shall choose its geniuses from Bedlam PASCAL accepts HORACE's view anent the kinship of genius and insanity According to FELIX PLATER ("Observations in Hom Affect, 1641), madness and genius are very near, an opinion which was later reiterated by DIDEROT ("Dictionnaire Encyclopedique") In the late eighteenth and early nineteenth century a certain amount of reaction occurred against the doctrine TISSOT, the great psychologist, one of the earliest writers to point out the effect of the psychic disturbances from fear and shock in the production of *delirium acutum nervosum*, as the older surgeons called post operative insanity, wrote a work ("Maladies des Hommes de Lettres," 1796) intended to prove that most of the afflictions of literary genius were occupation disorders, not inherited degeneracies

With the impetus given the evolution doctrine during the first half of the nineteenth century, the degeneracy phase of genius was again strongly urged Mr MADDEN began the work "Infirmities of Genius" (1833) later supplemented by the magnificent epoch-making treatise of MOREAU DE TOURS, "La Psychologic Morbide" (1859) on the subject In many respects this work, considered from the standpoint of logical analysis and arrangement of facts, surpasses most later treatises on the subject It certainly compares favorably with MAUDSLEY's vaticinations on genius, with the researches of J A SCHILLING (*Psychiatrisches Briefe*, 1863), with the work of HAGEN ("Verwandschaft des Genie mit dem Irsinn," 1877), with JURGEN-MEYERS' researches (*Zeitschrift f Tolker-Psychologie*, 1879), with LOMBROSO's work ("L'Uomo de Genie," 1883), with that of RADESTOCK ("Genie und Wahnsinn," 1884), with that of TEBALDI (Ragione e Pazzia," 1884), with the researches of TARNOWSKI and TCHUKINOVO, who translated into Russian, with additions, LOMBROSO's work in 1885, and with the work of NISBET ("Insanity of Genius," 1892) NORDAU, as he admits, merely popularized pessimistically the views LOMBROSO expanded from MOREAU DE TOURS, who had a quarter of a century previously characterized genius as a neurosis According to LOMBROSO it is a degenerative epileptoid neurosis

Notwithstanding the *Medical Record's* learned opinion, the degeneracy theory of genius has not as yet reached that stage where it fulfills scientific requirements, since it not only does not as yet explain all the facts but it fails to exclude all other explanations

However, not even those who, like KIERNAN, claim that where neuropathy and genius coexist (*Alienist and Neurologist*, 1887) the genius is an expression of healthy atavism, will deny that the struggle for existence between organs and structures, already outlined, may produce variations which, when the organism secures the balance between its warring structures, must elevate the race in the scale of evolution The principle thus enunciated lights up, as HARRIET ALEXANDER remarks, the gloom of the ordinary pessimistic view of degeneracy with a well defined hope that the functionally defective neurons of the degenerate may be trained

Till within
The twilight mazes of his brain
(Like embryos within the womb)
Thought pushes feelers through the gloom

It also points out optimistic possibilities of that future when man shall have learned to adjust the struggle for existence between his structures for the greatest benefit of the organism as a whole

CORRESPONDENCE

The Commission Evil

NEW YORK, Nov 14, 1898

To the Editor —In the JOURNAL of Nov 13, 1898, I find an editorial under the caption of "The Commission Evil", which reads almost like a slander upon the profession, and which leads me to ask if the editor actually has knowledge of specific instances in which a commission or rebate has been paid by the general practitioner to the specialist?

My own work is almost wholly with physicians, and among the hundreds with whom I come in contact not one has ever intimated that he would like to have a commission or rebate Sometimes when I have done work for a poor patient whose friends have collected a small fee for me and none at all for the family physician, who has much work to do for the patient, I have insisted that the physician should take a part of the fee, and even in such cases have usually found him unwilling to take any part thereof Possibly the report that specialists claim commissions has come from some one who feared that he was not getting his share of work because he did not give commissions, but the acquaintances of such a man could probably in form him of the real reason why he had failed to engage the confidence of physicians Not long ago a truss maker offered a 10 per cent commission on all cases referred to him, and all my cases for trusses have since then been directed to go elsewhere Every responsible physician knows how patients trust him and he selects with great care the specialist who is to do work for any of his clientèle He must be instinctively repelled by the idea of receiving a commission for doing the right thing by a patient who has put confidence in him

Physicians in my circle of acquaintance present two well marked attitudes In one class the physician persuades me to do work for small fees, hoping thereby to gain personal prestige with the patient In the other class the physician says "I want to be fair to you and to my patient My patient can not pay you $5000 for his operation without depriving himself a good deal, but he can pay you $2500 A third class in which the physician asks for or would accept a commission is not met with in my practice at all, and I believe that my practice is representative, and that other surgeons who are held to be responsible men will give precisely the same testimony

Robert T Morris, M D

"A Physiologic Question of Practical Importance"

Owatonna, Minn , Nov 18, 1898

To the Editor —I was interested in your editorial in the Journal of November 12, under the above caption but wish to correct an erroneous impression you have conveyed to your readers in it

The fact is, that the official investigation in the Tryon case showed that the Admiral was so thoroughly under the influence of alcoholic intoxicants as to render him incompetent for the performance of almost any intelligent function

There is but little doubt that many of the cases to which you refer originate in the same manner, though perhaps not from this identical cause It is well known that there are various drugs which produce such results, and there is but little doubt that the excessive use of tea coffee and tobacco may be responsible However, the fact still remains that we often do have the phenomena to which you refer resulting from a perversion of some one or more of the cerebral or nervous functions I think the trouble is fully as likely to be in some of the special senses as anywhere, though doubtless it is often located in some of the higher cerebral centers which connect us with our environment It is certainly a fascinating study, though one in which the omnipresent microbe may for once probably be eliminated, and one which should yield profitable results to him who follows it

Very truly yours,

Theo L Hatch, M D

Vital Statistics of the War

Camden, N J Nov 16, 1898

To the Editor —Dr Charles Smart of the U S A , in a letter directed to you, of the date of October 22, complains of an editorial which appeared in the *Philadelphia Medical Journal* relative to the mortality in the Spanish war, and causes of the mortality

What he says is all very well for the most part, but will he explain why so many soldiers not exposed to the hardships of war, but quartered in a country rich and resourceful in every way, died of disease When we consider that these same soldiers had all undergone strict physical examination and been pronounced of excellent resisting power the mortality among them seems to indicate gross incapacity somewhere

Suppose that during the Civil War proportionately as large a number of soldiers had been isolated from the scene of actual warfare and that the same percentage of deaths had occurred among them, would not the mortality have seemed frightful?

Respectfully yours, J F Walsh, M D

PUBLIC HEALTH

The National Quarantine Convention at Memphis —Pursuant to call, the National quarantine convention assembled in Germania Hall, Memphis, Tenn , November 17 Chairman J S Menken of the committee on organization called the meeting to order After addresses of welcome by Mayor J J Williams and Mr Menken, Gen Luke E Wright was unanimously chosen as permanent chairman He spoke of the objects of the convention and the benefit to be derived from National control of quarantine matters The organization was completed by the election of Mr Phil A Rusk of Senatobia, Miss , as secretary, and Mr Fred Orgill of Memphis as assistant secretary The balance of the morning session was consumed in the discussion regarding the equitable representation of the States and in the completion of the different committees The afternoon session was devoted to the reading of various resolutions presented for consideration By order they were respectively referred to the committee on resolutions without debate

At the evening session the first paper was by Dr John B Hamilton of Chicago He prefaced his remarks by stating that it was fortunate for this convention to be held in Memphis, because it was twenty years ago in the throes of agony from a fever epidemic while it was on account of its present excellent sanitary conditions, free from this and other diseases and therefore an object lesson to show the results of applied sanitary science

He passed the origin of yellow fever with the statement that it was exotic, a living organism, but whether vegetable or animal it mattered not As the fever organism traveled only by the ordinary vehicles of conveyance, its spread could be stopped by stopping these vehicles, as was done during the Civil War by blockade Its spread from Brownsville, Texas, was prevented during 1883, while without these precautions it spread greatly in Mexico In the same year an epidemic of fever was prevented from spreading from Warrington to Pensacola, Fla , only two miles distant Proper measures also prevented its spread from Decatur Ala , in 1888 Mentioning other similar instances he said that whenever commerce had been bound and epidemics had spread since 1891 it was due to maladministration, in failure to apply rules of sanitary science

In regard to panic and its prevention, the only way he knew of preventing panic was to teach the people that the death rate from yellow fever had been greatly reduced , that tuberculosis annually destroyed one hundred times as many lives , and that typhoid fever had a higher and a greater death rate than yellow fever With proper sanitation and isolation of the first case, he said there was little chance for it to spread in cities

Today, more than at any previous period in the history of this country America is in a position to press the matter of sanitation in cities not formerly under our control from which have emanated, for the last two centuries, a steady stream of death dealing microbes The duty of the government is clear, that at whatever cost, the foul plague spot which the providence of God has placed in our hands, shall be made clean and healthful These beautiful isles of the sea, so favorably situated by nature should be purged of contamination

Already we see the admirable result of the cleansing of Santiago, and in that city, for the last seventy days there has not been a single case of yellow fever a condition which that city has not been able to report for a hundred years so far as known Our sister republic of Mexico, which now has an excellent national board of health, has, in view of the probable improvements about to take place in the islands of Cuba and Porto Rico, undertaken the sanitary regeneration of Vera Cruz, hitherto almost continuously infected with yellow fever for a period of over three hundred years Shall we not take into consideration this bright outlook as to exemption from exotics in discussing plans for the sanitary future of the United States?

I believe all have arrived at the conclusion that the present condition of things in this country is unsatisfactory, and that the situation has narrowed down to the presentation of two bills now pending in congress one known as the Caffery Bill and the other the Spooner Bill, which has been adopted by the American Medical Association and the American Public Health Association The Caffery Bill which has incorporated many of the features of the law of 1890, which was formerly superseded by the law of 1893 but in addition contains drastic clauses singularly inappropriate for the purposes of a free country has been passed upon adversely by the sanitary bodies of this country but its advo cates continue to contemptuously flaunt it in the faces and eyes of all of a public that wants none of it The central idea of the Caffery Bill is force, power and control, not co operation Besides that it is the narrow one idea of quarantine, no great system of general hygiene is provided On the other hand, contrast the broad, wise provisions of the Spooner Bill, framed after seven years of labor by professional committees of the American Medical and American Public Health Associations The New York Board of Trade and Transportation, through a quarantine committee, spent many months by correspondence, by hearings and otherwise, in endeavoring to arrive at a conclusion in regard to this matter, and their recommendation is in favor of "legislation which shall organize in the United States a national system of coast and interstate disinfection"

"We use the word 'disinfection' as distinguished from 'quarantine,'" said Mr Frank S Gardiner, secretary of the board, when questioned, "because we are led to believe that with the adoption of a proper and general system of sanitation and disinfection throughout the country, guided and controlled by one general head in thorough harmony and sympathy with every local State board, every such board can be brought in touch and co operation with every other local and State board, and what we have hitherto known as quarantine will practically disappear as being unnecessary, barbarous and obsolete"

The question before this convention is, will you recommend to congress the adoption of the AMERICAN MEDICAL ASSOCIATION Bill, providing for general sanitation, as well as quarantine, which provides for full co operation with every State Board of Health, and through this full local representation with its executive officer elected by this representative council, or will you rather choose the Caffery Bill, devoted to the single subject of quarantine, more suitable for the empire of the czar or of the sultan than that of free America? I can foreshadow your choice

Dr S D Robbins, acting asst surgeon, M H S, Vicksburg, Miss, in the paper which he read, strongly advocated the annexation of Cuba as probably the best way to deal with the question He thought the government ought to take charge of Cuba and thoroughly renovate the island

Dr F M Rogers read a paper in which he traced the history of the fever from early times on down to the present time, and he went far into the details of a correct diagnosis and treatment of the disease He concluded by advocating national control of quarantine matters

The convention then adjourned until 9 o'clock November 17

The second day's session was commenced with the reading of the paper of Dr H B Horlbeck

I unhesitatingly and without doubt express the conviction that the national laws as to quarantine that may be enacted by the Congress of the United States should be placed for execution in the hands of a separate and distinct representative bureau of health, to be organized at the seat of government at Washington

Laws and regulations and rules framed under this organization should have the hearty co operation of the people of the different States

The laws of health in all the communities of these United States are practically expected to be enforced under the guidance of the members of the medical profession of such places

The matter of the delegation of the conduct of national sanitation, quarantine and hygiene has engaged the close attention of the medical fraternity for a number of years in the recent past, culminating about eight years since in a distinct and decided act by the AMERICAN MEDICAL ASOCIATION of the United States

The AMERICAN MEDICAL ASSOCIATION possesses a membership of nearly ten thousand medical men, a roll of membership characterized by aspirations of the noblest endeavors that actuate mankind, and fulfilled by untiring and unselfish devotion The committee of the AMERICAN MEDICAL ASSOCIATION appointed by them for this purpose, has been carrying out the wishes of that body in using every possible effort to have Congress enact a law creating a commission for the protection of the general health of the United States The American Public Health Association, comprised of the members whose daily occupation is the practical solving of questions of hygiene in their respective States and municipalities, has spoken with no uncertain method in confirming the action of the AMERICAN MEDICAL ASSOCIATION Thus we have the largest distinct sanitary body in the world and the largest medical association (far outnumbering any other organization, of a similar character) in this country, who have given serious thought to these vital and all absorbing questions, in an overwhelming majority expressing their judgment that all matters pertaining to the national issues of health should be placed in the control of a representative commission, who shall organize a working bureau or department of health—a bureau in which every State should be represented

These matters have been before the country for many years—the present systems have been unsatisfactory in their results

Year after year, not only yellow fever but other contagious or infectious diseases are spread abroad between and among our States The Marine Hospital Service should confine its work and labors to the welfare of the sick sailors or seamen of the merchant marine of the United States It was never entertained when this service was organized that the internal or external quarantine should be placed under its control Nor is it proper that it should remain there any longer than a proper representative bureau can be organized for the purpose

It is my conviction that as far as is possible the care of the health interests of each municipality and State should be under their respective boards of health, and it is my further conviction that all interstate matters of health quarantine, sanitation and hygiene should be under the control of a national bureau organized as above indicated

The powers now granted by the quarantine act of Congress, passed and approved Feb 15, 1893, are today most full and sweeping With a strong, well equipped and vigorous administration they would seem entirely sufficient This law gives to the President the fullest powers possible to be granted, and no other power, marine hospital or national board should have more This law gives power to the Secretary of the Treasury (that is, practically, the Marine Hospital Service) to make additional rules and regulations beyond the rules and regulations of States and municipalities that may be necessary, and on the failure of these States and municipalities to execute the additional rules and regulations, to carry them out, to enforce them Why should an additional law be enacted, giving supreme and arbitrary power to the Marine Hospital Service to force any and every community to carry out their mandates as to certification of persons or merchandise, under penalty of the hated and degrading stripe and ruinous penalty? When dealing with the organized municipalities of the United States, education and not force should be the compelling power Men resort to extreme measures of the shotgun under great pressure of concealed peril An enlightened and able organization, showing capacity for protection, would cause the rude interference of the shotgun to vanish as the melting snowflake in the flowing river

The opportunity presents itself to this convention, composed of enlightened citizens representing not only the legally constituted guardians of the public health, but also the representatives of the various interests of many communities and States, to place upon record their demand upon Congress that they should organize a national bureau of health—to whom not alone the matters of national quarantine (which at best is an arbitrary necessity, only to be used under extreme occasion) should be given, but to whom the immense and all pervading questions affecting every home and homestead in the land should be referred for instruction and assistance when required as to betterment

Scarlet fever, diphtheria, typhoid fever and the great white plague, consumption, year by year and month by month and day by day claim their tens and hundreds of thousands of victims Of many, we have mentioned these few preventable diseases, which would be looked on with horror except for their constant and daily presence

The duty and province of a bureau of health would be to enlighten the nation in all its walks, among the mighty and among the lowly, to prevent these diseases, to spread information by widely circulated publications of the dangers from improper food and drink and surroundings, to gather information from all progressive and enlightened foreign lands, and to verify and develop all possible knowledge and give it to the country, to organize a biologic laboratory, where the problems of the dangers to life and well being and happiness may be studied and the results made known, to collect vital statistics, to learn what places are unhealthy, and to say why they are not suitable for human habitation, to keep disease out of the country, and when it passes the confines to hinder its progress

What an example England gives us! Quarantine is hardly known, but enlightened sanitation is practiced Disease is prevented

There is not a home in these States that can not be bettered, however well appointed it may be, and knowledge and information should be continually furnished for the guidance of the people by weekly bulletins that should be widely distributed

For these and many other duties a national bureau of health should be established and equipped and maintained

When the great people of these United States shall be educated as to their own duties, and it shall be made plain to them that their very lives depend on the observance of proper rules for their guidance and protection, there will be no necessity for such coercive and drastic penalties as have been contemplated

The bureau of health should have control of all interstate and national questions of health matters, and should be co operative and always be ready to render assistance in information or material

This convention, should it earnestly, with no uncertain cadence, give its support to such an organization as a national department of health, will not have been without avail in the eternal progress of our advancing civilization made possible under the benign and never to be dimmed Star of Bethlehem

Dr Saunders deprecated the idea of centralization of power as being contrary to the spirit of the institutions of this country He advocated a broad system of public health, rooted in the people from whom its support should be drawn

At the close of Dr Saunders' address the report of the committee on resolutions was called for and presented by Chairman G D Shands, who prefaced the report by stating that it had been unanimously adopted by the committee, after mature reflection and deliberation The written report was read as follows

> The *committee on resolutions* after careful consideration of the many valuable resolutions offered by the various members of the convention have decided upon the following as embodying the ideas expressed in the majority of the said resolutions
>
> Therefore That for the purpose of protecting and improving the general health of the people of the United States co-ordinating and harmonizing the action of the State and National sanitary authorities, framing regulations for the treatment of infected vessels and material at all infected or suspected foreign ports of shipment, preventing unnecessary interference with commerce, the United States mail, or through traffic by land or water, and for adopting a uniform system of quarantine for all ports in this country be it
>
> *Resolved*, That there be established on a broad and comprehensive basis a National Bureau of Public Health in the Department of the Treasury of the United States, that the administration of *all* the public health functions now exercised by authority of the United States be placed in the hands of this Bureau
>
> 2 That the sanitary authorities and commercial interests of the several States of the Union be brought into immediate relations with the Bureau and be given a due share in the power and responsibilities of the central board through the agency of an advisory council consisting of one member from each State, to be appointed by the authorities of the several States

After the reading of the report its adoption was before the house for debate Dr Maury, of the Tennessee delegation, took the floor As there was objection to the immediate passage of the resolution, an adjournment was taken until 3 P M

An executive committee was appointed, as follows, and they were instructed to use every effort to secure the passage of a law in accordance with the resolutions The committee will themselves agree on a bill which meets the views of the Convention as thus expressed Gen Luke E Wright of Tennessee, Dr Ruhart of Maryland, Fred Orgill of Memphis, Dr U O B Wingate of Wisconsin, Dr W B Horlbeck of South Carolina, W H Dwyer of New Orleans, J T Harahan of Illinois, and Dr Samuel Durgin of Massachusetts

At the opening of the afternoon session many amendments were offered, but were promptly voted down, and the original resolution was passed by an overwhelming majority After the passage of the resolution and vote of thanks to the local committee, the convention adjourned

The Plague in Russian Turkestan —The public has been much alarmed at the few cases of plague in Vienna, but all danger seems to be over from this source There is more to be feared, perhaps, from an epidemic of a disease supposed to be the plague, reported by the governor of Samarkand at the village of Kishlak, Ansord The strictest measures were taken at once to prevent the spread of the disease, the chief of the Plague Bureau, Prince Alexander von Oldenburg, hastened to the spot, the village was disinfected, clothes burnt, etc , and a cordon of inhabitants of neighboring towns drawn around the place

A New Institute of Hygiene —The South Australian Institute of Hygiene and Bacteriology has been brought into active operation within the last two months Its objects, among others, are to afford facilities for the study of bacteriology and hygiene, the encouragement of original research, the giving of lectures on sanitary subjects to sanitary inspectors, nurses and others A very moderate scale of fees for bacteriologic examinations has been adopted Dr Borthwick, medical officer of health, Kensington and Norwood, has, we understand been very largely instrumental in founding the Institute, of which he is the honorary general secretary We trust that the Institute will enjoy a successful and useful career

Sanitary Operations at Santiago —Gen Wood is indefatigable, in sun and rain alike The result of his labors is apparent in every branch of the service—civil and military The patients are reaping the result in better attendance and improved food and cooking People who have lived here a lifetime are unable to understand the extraordinarily low death rate, averaging for October, up to date, ten a day During the same period of last year the deaths averaged 183 a day The 300 prisoners in Santiago prison will in future be made to work on building roads for the city The rock will be hauled over the railroad from the Songo quarries It will be delivered at the rate of forty cents a ton, and the railroad officials have offered to deliver 500 tons of rock free as their share of the work of improving the city —*New York World*

Typhoid Fever the Scourge of the Armies —The lessons of some of our recent wars ought to be instructive to those who have the responsibility of placing a number of armed citizens in the field Hitherto the lessons of war have been disregarded, though the teachings have been most emphatic Disease kills more than the sword This appears to be the inevitable course of wars It was written in large letters in the Franco Prussian War, and more fearfully still in the Crimean War Since then in the Spanish-American War the ravages of yellow fever have been appalling, and now we learn that a telegram from Alexandria states that the men who have returned from the Nile continue to die like flies, from enteric fever, contracted possibly through the use of tinned beef, and certainly aggravated by immoderate indulgence in cheap, nasty spirits at fifteen pence a bottle, the men having accumulated money in their pockets The return states that every bed in the great hospital at Raseltin is occupied, besides which dozens of deaths occur weekly, and it is believed that ten per hundred of the British troops on the Nile are already affected The disease is, moreover, following the troops into Crete When tinned beef is fresh it is all right, but big tins rapidly spoil before the contents are consumed The mortality during the whole campaign is probably less than the subsequent deaths from enteric fever —*The Scalpel*, October

Defective Hospital Arrangements in the Soudan —The approaching home coming of many hundred sick soldiers from the Soudan has revealed grave defects in the military hospital organization here The fact is that at the present moment all these hospitals are already overcrowded, and the only way in which room can be made for the poor fellows now returning from the East is by driving out an equal number of men long before they are honestly cured A few more weeks, or even days, of treatment would have saved such sufferers as future defenders of their country, but, as a matter of fact, the authorities, who expel still ailing men for want of room, satisfy their own consciences by labeling them invalids, and clearing them out of the service altogether It is difficult to overestimate the number of soldiers England loses each year by this almost inhuman economy, and if the critics who have been lifting up their hands in holy horror at the shortcomings of our war surgery will now but look at home, they will find conditions—absolutely inadequate in a time of comparative peace—which would constitute the gravest scandal in a time of war But the modern average Britisher, even the jingo, says in his heart, "There will be no war," and keeps his very hospitals on a scanty peace footing —*The Outlook*

The Seasons at Manila —The seasons at Manila are described by the Spaniards as six months of mud six months of dust and six months of everything There is much confusion in the public mind just now as to the question of the health of

North American troops during a temporary sojourn in the Philippines, and also as to the larger question of possible acclimatization of our people in those islands, in case of permanent occupation No definite answers can be given to these two questions, but in their consideration three things may well be borne in mind 1 By means of strict observance of hygienic principles, the death rate among foreigners in a tropic country can be very much reduced This has been nowhere shown except in the case of the British troops in India and of the French troops in Cochin China 2 The great majority of the best authorities are agreed that complete acclimatization of Europeans—and hence, we may add, of North Americans—in the tropics is impossible By exercising the greatest care, they may live in tropic countries, but, as has been well said by a recent writer, to tolerate a climate is one thing, to be independent of it is quite another 3 The Anglo Saxons are universally acknowledged to be the least fitted, the Mediterranean nations the best fitted, to colonize in the tropics —*Science*

Pulmonary Tuberculosis —Otis (*Am Jour of the Med Sci*, November) believes it problematic whether we shall ever be able to cure any large number of these cases by antitubercle serum, "for when the disease is once thoroughly established the infection becomes a mixed one, and various other micro organisms are brought into play, and the whole system becomes involved" He considers prevention the most hopeful outlook —prevention by eliminating the bacillus and by establishing immunity to it through a normal standard of health Properly conducted, compulsory registration of the sufferers need not work great hardship to the consumptives or their friends, but would be less necessary if physicians could be depended on to see that proper precautions were taken as to the disposal of the sputum and disinfection Where preventive and disinfectant measures are difficult or impossible of execution, among the consumptive poor, especial hospitals should be provided He gives the following instructions concerning the disinfection of a room that has been occupied by a consumptive 'Carpets, curtains and bedcoverings should be exposed to superheated steam under high pressure, or where facilities for this do not exist, they, with all stuffed furniture, shough be thoroughly shaken and brushed, and exposed to the open air and sunlight for several hours The floor and walls of the room should be rubbed with new bread, followed by the application of a 1 per cent solution of chlorid of lime, or a corrosive sublimate solution (1 to 500), ceilings should be thoroughly dusted and white washed Every corner wherever dust is likely to lodge should be carefully cleaned The windows should be left open for twenty four hours" Further, in dispensaries, etc, circulars with plain directions as to the avoidance of tuberculosis should be given each patient, and to the tuberculous ones, in addition, rules for disposing of the sputum

Local Infiltration in Infections E Centanni of Bologna announces, as the result of extensive study of the serotherapy of pneumonia (rabbits), that Behring's methods are ineffectual in this disease, the products are rarely active, and too uncertain to be depended upon when the disease is actively developing But he found that he was able to extract from the cultures outside the body, harmless, rapid and concentrated vaccines which produced favorable results even when the disease was actively developing He also found that this effect was due to the participation of the organism which they induced, and finally established the important fact that the organism possesses an extremely powerful immunizer in the local infiltration which acts at the same time on the germs and on the products of their action on the tissues Reabsorption of this infiltration or inoculation with the small amount of 5 to 2 centigram, confers upon the rabbit at one stroke, without any other preparation, a serum that arrests the pneumonic infection even at the moment of its highest activity, with a natural crisis The action of the antipneumonia serum combined with the local infiltration proved so satisfactory that he extended his research to diphtheria He found that while the infiltrate is powerless in this disease to prevent the action of the toxins upon the tissues, yet it succeeds in paralyzing the secondary products, and thus exerts its curative power at a period of the disease when the specific serum has ceased to be effective He divides the infection into two stages 1, the alterations produced in the tissues by the direct action of the germs or their toxins, 2, the products that are developed secondarily in the altered tissues Immunity therefore must depend upon two factors one to arrest the development of the primary germs and render their toxins harmless to the tissues, and another to promote the limitation and harmless reabsorption of the altered tissues at the local focus The first immunizing factor is to be derived from cultures, either directly or by transformation but the second factor is evolved by the elements of the body at the point of local reaction, and the moment to obtain it for use on others is when the infiltration is being absorbed into the circulation The *Gazzeta d Osp*, xix, No 103, contains the detailed report of his investigations

A Decline in Birth Rate —At the Birmingham Congress of the British Sanitary Institute in September, Dr Dawson Williams read a paper on the subject of "Decline in the Birth rate of England and Wales," and said that when the census was taken in 1891 it was discovered that we had been making an overestimation of our population in England and Wales, and that, whereas the estimate expected an increase since 1881 of, in round numbers, three and three quarter millions, yet the actual increase, as ascertained by enumeration, was only just over three millions The growth of the population was determined by two factors—the balance between births and deaths, and the balance between immigration and emigration The decline in our rate of growth has been due to a disturbance of both these balances The births were 290,000 below expectation, emigration was 412 000 above expectations The death rate was lower, so that in fact, the natural increase on the balance of births and deaths ought to have been larger He commented upon the diminished birth rate, and ascribed it to a progressive decrease in the number of children born to married English and Welsh women, and thought this might be due to the fact that the average age at which women married was now somewhat later than formerly It was a rather curious fact that the proportion of bachelors in a given number of males decreased steadily, not only during early adult life and maturity but afterward also The registrar general concluded that 'married life must in itself be more favorable to longevity than the condition of celibacy" Death or marriage appeared to be the alternative The last census showed that both the urban and the rural population had increased, though not in the ratio expected, but the increase had been much less in the latter than in the former In certain counties in which agriculture was the main industry, the rural population had actually declined There were more infants born in towns than in the country in proportion to the population, but the infant mortality in towns was so much higher than in the country that the town excess of births failed to maintain an excess in proportion to the total population The great improvements brought about by public health legislation had affected persons in adolescence and in early maturity The decrease in the birth rate would appear to be progressive and by far the greater proportion of deaths in infancy were preventable —*The Scalpel*, October

Sanitation of an Oriental City —The *New York Times* describes the radical measures adopted by the Japanese in Formosa, for the reclamation of a filth saturated city Japan has, in the Island of Formosa, a possession that duplicates, on a small scale, many of the administrative, economic and political problems which Cuba presents to her would be regenerators, American and native In Formosa, as in Cuba, the centers of population have for centuries been breeding places of pestilence, aggregations of people rather than cities, and unprovided with even the rudiments of a sanitary system On assuming control of the island, the Japanese first turned their attention, naturally, to the remedying of conditions from which their own soldiers and officials were sure to suffer severely This task, everywhere difficult, they seem to have found impossible of accomplishment in at least one instance, for they have just decided that it will be cheaper and easier to remove the inhabitants of Teukcham, an important seat of trade, to a new site than it would be to make the present one even moderately healthful So they have ordered 40,000 people to prepare for immediate removal from the infected and swampy ground on which the town now stands, and to take up their residence on a hillside several miles away Here streets have been laid out like, but better than, the old town, and to every property owner there has been assigned a plot of land corresponding in position and size with that which he formerly occupied Sewers, railroads, sidewalks, public buildings, water works and many other improvements have been provided at Government expense, and, with further assistance, which the people will receive, it is expected that within twelve months the transfer will have been effected with an amount of individual loss and hardship not worth considering in comparison with the benefits secured A Formosan town is a very different thing from a Cuban city like Havana or Santiago, and what is practicable enough in the one case could hardly be attempted in the other, but there is none the less a valuable suggestion in this Japanese 'short cut" to health and safety Cuba has many good harbors, occupied now by only small and easily handled villages By judicious selection among these it would not be impossible gradually to attract population, especially newcomers, and so start even with the microbes and bacteria

SOCIETY NEWS

Cincinnati Academy —At the regular meeting of the Academy of Medicine, November 14, Dr C D Palmer read a paper entitled "What is the Proper Field of Salpingo oophorectomy?"

Society for Original Research —At the regular meeting, held in Cincinnati, November 10, the program was Two brain tumors, by Dr F W Langdon, histologic specimens, by Drs Freiberg and Rowe, "The Anatomic Basis of Neuralgia of the Temporal Bone," by Dr Robert Sattler

American Humane Society —At a meeting of the Joint Committee on Vivisection of scientific societies of Washington, D C, November 12, the following resolution was passed

Resolved, That the Secretary be authorized to call the attention of the prominent medical and scientific journals of the country to the importance of the meeting of the American Humane Society to be held in this city in December proximo, and to request that editorial notice be taken of the danger that the influence likely to be exerted at that meeting may cause the Vivisection Bill now pending in the Senate to be called up and passed

It is also requested that our readers write to their respective senators and representatives in regard to the matter

Washington Medical Society —At the meeting of the society held November 16, Dr Shands presented skiagraphs illustrating the value of X rays in the treatment of fractures of the long bones He showed a number of cases of deformity from old fractures which he had subsequently cured by wiring One skiagraph showed the entire pelvis and both legs Dr Carr reported a case of ruptured spleen The case was that of a child 10 years of age, who had been kicked by a mule and brought to the Emergency Hospital for treatment. On the second day he opened the abdomen, found a ruptured spleen which he removed, the child making an uneventful recovery Dr Galzebrook presented a dentigerous cyst which he removed at an autopsy, the growth was about the size of a small apple and contained two well formed teeth he presented two kidneys, each of which showed an anomalous arterial supply, each having three renal arteries The ureter entered the pelvis of the kidney by three or four openings in each specimen He also presented a tubercular abscess of the lung with the abscess covered with hard, chalky deposit The pleura was also studded with chalky deposits

Washington Medical Association —An adjourned meeting of the Medical Association of the District of Columbia was held November 15, to receive the report from the Standing Committee on Hospital Dispensary Regulation The committee reported that the staffs of the following institutions had presented satisfactory proofs that they were enforcing the recent regulation of the association regulating the admission of free patients Central Dispensary and Emergency Hospital, Dorothea Dix Dispensary, Eastern Dispensary, Woman's Dispenpensary, Children's Hospital, Columbian Hospital, Garfield Memorial Hospital, Lutheran Eye, Ear and Throat Dispensary South Washington Dispensary, Columbian and Georgetown University Hospitals The committee said "We find that the Dorothea Dix Dispensary has on its attending staff others than members of the association, but those who are members expressed their determination to comply with the regulations In the opinion of the committee the system in vogue to a certain extent, in the Providence Hospital, by which the resident physician, who is not a member of the Association, but renders service to private patients in pay rooms, is reprehensible and calculated to deprive members of the attending staff and the profession at large of proper remuneration for their services The committee was instructed to report the names of physicians connected with hospitals of the District who are not members of the association, and to recommend a plan for correcting the abuse cited in their report

NECROLOGY

PHILANDER VIRGIL BENSON, M D, Baltimore, Md, November 10, aged 60 years ——Herman A Borger, M D, Chicago November 18, aged 38 years ——C J Heckert, M D, Harrisburg, Pa, November 13, aged 50 years ——H S Howell, M D, Kansas City, Mo, November 13, aged 40 years ——James M Smith, M D, Cheswold, Del, November 12, aged 62 years

JAMES D MONCURE, M D, superintendent of the Eastern State Hospital, died at Williamsburg, Va, November 9 The Doctor was born in 1842 and began his study of medicine in Heidelberg University, Germany, after being a student at Bernhardt, Austrach, Meindirgen, Germany and in College Rollin, Paris After the Civil War he was graduated from the University of Maryland and, in 1884, was elected superintendent of the above asylum

JOSEPH UNDERWOOD HALL, M D, Jefferson, 1859 died at his home in San Jose, Cal, November 14, aged 85 years He was a native of Kentucky and during the Civil War had charge of the Union Hospital in Glasgow, Ky

B ABBOTT LINDSAY, M D College of Physicians and Surgeons, New York, 1881 died at his residence in New York City November 13 He was born in Lancaster, N H forty two years ago

CHARLES C EDWARDS, M D, Jefferson 1875 born in Gibson, Pa, seventy three years ago, died at his home in Binghamton N Y, November 16

EMIL SCHOPEN M.D, University of Berne Switzerland 1884 of Yonkers [illegible] is office November [illegible]
He was well kno

Barbour —Dr Philip Stanhope Barbour, for the past eight years the efficient superintendent of the Louisville City Hospital, died there on the 14th inst , after a lingering illness He was born in Jefferson County, in September, 1847, of an old and honored family At that time his parents resided eight miles from Louisville He attended such schools as were in the neighborhood for several years, and later took a course at a college at Bedford, Ind In 1867 he went to Philadelphia, where he attended the Jefferson Medical College After receiving his diploma from this college he returned to Louisville and began the practice of his profession He soon attained prominence and acquired a splendid practice About twelve years ago his hard work began to tell on him and his physicians advised him to seek a colder and more settled climate He then sought and secured a position under the United States Government as physician to the Indians at the Cheyenne Agency in Northern Dakota After a brief stay at home in Louisville he found he would have to leave again, and secured the appointment as physician to the Kaw Indians in the Indian Territory, where he remained sixteen months In 1890 Dr Barbour returned to Louisville and soon after was appointed superintendent of the City Hospital, which place he has held ever since Dr Barbour married Miss Rebecca Tarlton in 1869, she and two children survive him Mr Philip D Barbour and Mrs Dr Ellis Duncan The Doctor made a great record as superintendent at the City Hospital Many changes have taken place in the hospital during his incumbency, as when he first assumed charge the place was a disgrace to the city, the buildings reeking with vermin, without repair since they were used during the war as a military hospital Suggestions from Dr Barbour were largely the cause of the improvements which have taken place He saw the building enlarged, thoroughly renovated, a new laundry building added, fire escapes erected, a change of system in the training school for nurses, the installation of the ambulance service, the erection of a pathologic department and postmortem room and amphitheater, and the beautifying of the grounds He has been able to work amicably with a number of changes in the mayoralty, under a board of charity commissioners and later under a board of safety During the eight years that he had been connected with the hospital he took but three weeks' vacation, he was up early and late, and no one had more warm personal friends

---

PRACTICAL NOTES

(*Continued from page 1306*)

Chronic Suppurations of the Middle Ear —E Schmiegelow describes 96 cases he has operated and gives tabulated details, in the *Nordiskt Med Arkiv*, 1898, No 17 He has operated over 300 in all In 23 cases the affection had lasted eleven to twenty years, in 17, from one to five years, and in one case between forty and fifty years The mastoid apophysis was alone opened in 20 cases, with 55 per cent cured , in the rest, the otitis was not arrested The attic was opened in 14 cases , 7 were cured, 3 improved , 1 relapsed and in 2 the result is unknown In 53 cases the entire middle ear was opened and 70 per cent cured In 7 cases the operation was not completed In 9 cases there was improvement , 3 cases died—miliary tuberculosis, or meningitis The transverse sinus was opened once In 4 cases the operation was followed by traumatic facial paralysis He states that the patient must be prepared for the tediousness of the after treatment In one of his cases it required a year and a half , in several six to nine months, but the average limit was two to four In 58 cases nothing could be learned as to the etiology In 10 it commenced as an acute suppuration after influenza In 3 it was evidently a carious process due to the presence of adenoid vegetations In 4 cases the suppuration was tuberculous In 2 it was the result of whooping cough, in 11 of scarlet fever, in 2 of measles, in 5 of trauma and in 1 case there was a carcinomatous growth The hearing was unaltered after the complete operation in 8 , more or less improved in 27

Meta Cresol Anytol in Erysipelas —Anytin, the new substance that renders insoluble substances soluble, was described in the Journal, xxx, p 887, and the promising results attained with it in combinations, especially meta cresol anytol, in diphtheritic and other bacterial processes The *Deutsche Med Woch* of October 27 contains the report of extensive tests at Loeffler's Hyg Institute, which show that painting the erysipelatous patch with it will check its development and arrest the infection The results are so encouraging that further tests are now being made in other bacterial and parasitic affections

Albuminuria in Malarial Fever —Thayer presents an analysis of 758 cases of malarial fever occurring in the Johns Hopkins Hospital during eight years, in the *Am Jour of the Med Sci* for November Albumin was present in 321 instances, i e , 46 44 per cent , in the majority of the cases there being but a small trace of albumin In 121 cases, or 17 5 per cent , casts of the urinary tubules were found In the regularly intermittent fevers, tertian and quartan, the proportion of cases of albuminuria was 38 6 per cent , while in the estivo autumnal infections, the majority of all cases—58 3 per cent —showed albumin in the urine "

Bactericidal Properties of the Becquerel Rays —Becquerel established that phosphorescent bodies, especially the salts of uranium, absorb the most refrangible and the ultra violet rays, and emit rays that will pass through certain substances opaque to the sunlight They will even pass through several substances opaque to the Roentgen ray and can be refracted and polarized Pacinotti and Porcelli have been studying their bactericidal properties, using for the purpose freshly pulverized metallic uranium, exposed to the sunlight, and then kept at a temperature of 44 to 55 degrees C , without contact with the air Various germs exposed to the action of the rays thus generated were all killed in the space of three to twenty four hours, and the microscope showed alterations in their shape, indicating some chemic effect on the protoplasm (staphyl , strept , pyocyaneus , proteus , germs of cholera tuberculosis, diphtheria and typhus) They also injected 5 cm of a very virulent bouillon culture of the streptococcus under the skin of the ears of a rabbit, and exposed one ear to the action of the Becquerel rays, which prevented the evolution of any inflammation, while the non exposed ear ran the usual course of a streptococcus invasion The *Gazette degli Osp* of September 25 observes that the "experience and skill of the investigators, the precision of their work and the innumerable control tests, render this announcement extremely interesting and encouraging "

Typic Osteomalacia in Children —F Siegert reports a personal case and adds three from literature, in which all the bones were macro and microscopically affected with typic osteomalacia Three were girls of 13, and the fourth a boy, dying at 18 years All were of infantile habitus The disease lasted three years in three cases, six in one All had spontaneous fractures of the lower extremities, decrease in size, assisted by the curvature of the spine and limbs In three cases there had been a slight, soon outgrown rachitis in early childhood As phosphorus treatment is a direct specific for osteomalacia of the growing or developed skeleton, the importance of an early recognition of the affection is evident —*Munich Med Woch* , November 1

Nasal Discharge of Liquor Cerebrospinalis —Korner has collected nine cases, one personal, in which there was a discharge of a clear aqueous fluid through the nose, about 15 c c an hour, with disturbances in walking and bilateral atrophy of the optic nerve The similarity of the cases inclines him to group them all as a special syndrome caused by a tumor of the glandula pituitaria breaking through into the sphenoidal sinus —*Munich Med Woch* , October 25

Cicatrization of Wounds of the Liver – Cornil and Carnot report experimentation with dogs, from which they apply the conclusions to man that in case of a simple, not very extensive wound, the hemorrhage can be arrested after opening up the organ with laparotomy, by pouring 10 per cent gelatin on it If the wound is more extensive, the lips are brought together with a ligature in Glisson's capsule A little fibrin or blood clot between the two surfaces of the wound will not interfere with the cicatrization, but will provide nutritive material for the cells of connective tissue and endothelial cells of the vessels, which are to form the cicatrix and serve as a support for them More or less extensive pieces of the liver substance can be removed to make the wound more even If the loss of substance is superficial, a layer of the great omentum can be sutured with a stitch or two to Glisson's capsule When there is much loss of substance it can be replaced by human fibrin or a piece of sterilized sponge, impregnated with the yolk of an egg, or not The sponge offers more resistance and fills the cavity better, but the organization of fibrous tissues is less rapid with it Their article in the *Semaine Méd* of November 2, is profusely illustrated

Actinomycosis of the Umbilicus —A farm hand working naked to the waist became infected through the navel The actinomycosis yielded to potassium iodid, but the case suggests the danger of working naked while harvesting, and the necessity of extra cleanliness (*Bull de l'Acad de Méd* , October 18) A farmer with actinomycosis of the neck was also recently observed by Lucas Besides the actinomycetes in the pus they were also found in the apparently normal portions of the omohyoideus muscle —*Munich Med Woch* , November 1

Schweninger's Cure for Obesity —Prof H Cohn, the Breslau ophthalmologist, recently visited the Schweninger establishment and witnessed such remarkable cures that he describes his experiences at length One woman has lost fifty pounds in eight weeks, another twenty in five weeks, and another who weighed 240 pounds when she arrived had reduced her weight to 145 when she left From exhaustion at the slightest effort, the patients could take long walks and climb hills without fatigue, with the heart working normally The treatment is threefold massage, hot baths and diet The massage is done by the physician, for fifteen minutes, before meals The patient is instructed to breathe deep, which is considered one of the most important factors of the results attained with the massage The abdomen is kneaded and finally large pieces of the derma are taken up and squeezed energetically between the hands to crush the subcutaneous adipose lobules In conclusion the masseur gets on the patient on his knees and digs them into the epigastrium while the patient takes several deep breaths Cohn describes his consternation at this sight, but the patients did not seem to mind it much, although they frequently drop to sleep afterward from exhaustion, and the abdomen is covered with ecchymoses The twenty minute hot baths are given to the arms, feet or a sitz bath, on separate days, never the entire body at once The water flows in and out of the tub at a temperature increasing from 30 to 40 degrees R The food is served in tiny doll dishes and only a pint of liquid is allowed during the entire day (Gerolstein sprudel water) Bread, cake, butter, fat sugar, coffee, tea, milk, wine, beer and brandy are rigorously excluded from the diet, but eggs, ham, roast meats, fruits, vegetables, etc , all in small amounts, afford a varied menu for the four meals The patients gradually become accustomed to the dry diet Constipation is controlled by aloes pills at night or an injection of five grams of glycerin in the morning The Sunday is a day of rest for all, and the rules are suspended Six to eight weeks are required for the cure, and the patient, to retain the benefits, must not return at once to his former habits of life —*Presse Méd*,, October 28

Mud Baths —Thiroux summarized the general action of mud baths at the International Congress of Hydrology, etc , at Liège, as accelerating the number, while diminishing the amplitude, of the respiratory movements, increasing the arterial tension and the pulsation, stimulating the central nervous system and the peripheral nerve terminals, increasing muscular excitability, compressing the articular surfaces, stimulating nutrition of the bones, increasing the electro cutaneous sensibility and the central and peripheral temperature, exaggerating the perspiration and increasing oxidation processes and the elimination of organic waste The local action is emollient, owing to the vegetable substances they contain They progressively relieve congestion and stimulate the circulation in the skin and muscles, while they have a special thermic action owing to the extreme heat possible to be endured without inconvenience by the subject, and for long periods They buoy up the body with a peculiarly sedative effect, and stimulate the general nutrition and nerve terminals, with a subsinapism of the skin, indicated by the "mud false eczema" He described the fine results attained at Saint Amand in the cure of phlebitis, and chronic troubles induced by a defective venous circulation in the lower members, also in gynecologic cases, concluding with the statement "Mud baths are therefore the thermal medication par excellence on account of the general stimulation of the organism and the local effects They stand at the head of modifying and altering measures Chronic torpid affections, gout, chronic rheumatism, hydrarthrosis and various forms of arthritis, ataxia, etc , are especially amenable to their action "

Prolapsus of Urethra in the Female —B Singer has had occasion to observe eight cases at Chrobak's clinic, generally children or women in the menopause It is caused by an angioma, by relaxation of the tissues or the introduction of foreign bodies The symptoms are pain in urinating tenesmus, occasionally inflammation and hemorrhage, sometimes there are no appreciable symptoms Treatment can only be surgical in a pronounced case —*Monatssch f Geb u Gyn* , October

Recurrence of Measles —Vergely reports a case of recurrence two weeks after the initial attack, the first in thirty one years' experience The average interval of the cases on record was from the sixth to the sixtieth day —*Munich Med Woch* , November 1

Alcohologenic Cardiac Epilepsy —A Smith applies this term to an epileptoid condition accompanied or preceded by dilatation of the heart As the state of the heart improves, the epilepsy disappears also The dilatation of the heart is purely alcohologenic and subsides completely with abstinence from alcohol in some cases or partially in others, with slight recurrences for a while In the first group, a slight excess of alcohol above very moderate amounts will induce the attack In the second group the intolerance to alcohol is not so pronounced Complete abstinence is the only cure, combined with medication to strengthen the musculature of the heart —*Munich Med Woch* , October 25

After Care of the Insane —Germany was really the originator of the excellent plan of taking oversight of the recovered insane, as of so many others by which mankind have benefited Its first practical promoter was the Hofrath Lindpaintner of the Duchy of Nassau (born 1793 died 1848) whom Dr Damerow of the Nietleben Asylum described at his death as "perhaps the last non medical director of a German institution for the insane," and who himself published in 1844 at Wiesbaden, his useful "Nachrichten ueber die herzögliche Nassauische Irrenheilanstalt zu Eberbach, im Rheingau, von ihrer Begru endung (1815) an bis zum Schlusse des Jahres 1842 " Midway of this period, Herr Lindpaintner founded the first patronage society Dr Earle, who visited Eberbach in 1849, just before its patients were removed to their present asylum on the Eichberg, said in his "German Asylums," published in 1852 53 "In 1829 a Society of Patronage was originated by Mr Lindpaintner, who became distinguished for the energy and ability with which, as director, he managed the asylum This society was probably the first of the kind To the poor who are cured it extends its care and assistance during a period of two years after they leave Eberbach Up to the year 1844 it had assisted 81 persons, at an expense of 1349 florins " It was then in quiet but successful operation a dozen years or more before a similar move was made at Paris It seems to me that this statement is due to the memory of one of the early reformers of insane care, in a country of which we hear much less on this subject than of France and England, especially in the period preceding Dr Earle's very useful book But I may also call attention to a matter which Dr Stedman and his colleagues overlook—that the boarding out system for the insane of Scotland, Belgium and some parts of Germany, gives one of the best opportunities for "after care," and is so used in those countries to some extent, as it was by me during the three years (1885 88) in which I introduced and managed the Scotch system in Massachusetts Some very striking examples of virtual recovery and self support occurred among the 180 patients whom I placed in families, in consequence of the after care which the State then exercised in such cases, and I doubt not more have occurred in the ten years since I ceased officially to exercise such after care – F B Sanborn, in *Boston Med and Surg Journal*, March 24

MISCELLANY

The "Medical Record" Again —Our attention has been called to an article in the *Medical Record*, entitled "Recent Experiences in Military Surgery after the Battle of Santiago " The *Record* says "THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION of November 12 publishes an article with the above title, suppressing the name of the author, which article is lifted bodily from the *Medical Record* of July 30, 1898, its aspect, however being altered by the insertion of illustrations A clear case of kleptomania " The truth about the matter is that Professor Senn wrote his article in duplicate One article, with the illustrations, was sent to this office, which, by the way, is in his own hand writing The other was sent to the *Medical Record* In the fullness of time the JOURNAL published the article, which was as much its property as any other article which has come into the JOURNAL office The *Record* having published it first, however, we would not have re published the article but for the imperfect manner in which it appeared in the *Record*, as without the illustrations this report was almost valueless Still, however, we presume it was good enough for the *Record* In regard to suppressing the name, this is a prevarication, as the name of Professor Senn appears in the contents and title page of the JOURNAL in its proper position, and also first in the "Miscellany" of the same number, the error having been discovered after the article in question had been passed through the press An error so seldom appears in the JOURNAL that it is naturally an object of mark by our esteemed contemporary

Black Excretions in Hystero Epilepsy —The *Gazz degli Osp* of September 13 relates the case of a lad of 13 years, a hystero epileptic, through whose skin exuded a black substance, while the urine was also blackish and the feces covered with a black layer When the lad was sent up to Naples, the phenomenon seemed to be arrested, but returned again after his return home to Calabritto, when he also vomited the black substance Zuccarelli personally saw the black substance oozing from the skin It looked like coffee grounds, and left inky tracks on the skin as it slid down The substance contained some mineral elements, but he could not discover any hematoxin or any other organic substance He is inclined to connect it with the antitoxic theory of epilepsy, but in a discussion at the Naples Accademia Med Chir, others attributed it to the hysteria Gallozzi also described a case, a relative of a Neapolitan physician, a classic hysteric, in whom intestinal occlusion suddenly appeared, with stercoral vomiting and exudation of stercoral matter through the mammæ and axillæ She recovered after two months of complete occlusion

New York State Hospital for the Insane,—The recent propositions for the construction of colony buildings for 2260 patients at Central Islip, New York, is an exemplification of what can be done with limited means, and well done The buildings are largely fireproofed, that is, the central buildings, all connecting corridors and two floors, beside fire proof party walls The building specifications call for the best quality of construction, and provide for the completion of the group in every detail, ready for occupancy, including water supply, heating lighting, plumbing, and fire protection The aggregate for the whole work is less than $500 per patient This furnishes a marked contrast with former palatial designs that have cost more than $3,000 per capita, and which will not compare in efficiency to the Central Islip group —*Charities Review*, November

Effect of Altitude on the Blood —The increased number of red corpuscles noted in high altitudes has been found to be due almost entirely to errors in the Thoma Reiss apparatus caused by the differences in the atmospheric pressure, as has been confirmed by Gottstein's tests with it in the pneumatic cabinet Schröder and Meissen have corrected this defect by making a deep groove around the edge, into which the glass cover fits air tight and excludes the outside air completely The question is now ready to be investigated anew, eliminating this cause of error —*Munich Med Woch*, Nos 4 and 42

Left Handedness —A Rothschild attributes this condition to lack of proper training in childhood, and relates a case of a 4 year old girl whom he cured permanently by hypnotic suggestion —*Vienna klin Rund* October 23

Puberty —A Marro, who is with Lombroso, the founder of the new school of criminal anthropology, has been studying the subject of puberty in its relations to anthropology, psychiatry, pedagogics and sociology, and asserts that marriage between two healthy persons after they have both attained their full development—beard, muscular and skeletal development, habits of work and money saving in the man, and bosom, adipose tissue and grace of outline in the woman, is the ideal from every point of view Before this period sexual intercourse is directly injurious to the development of mind, body and character It favors a return to savagery, the abnormal development of one function at the expense of the growing organism as a whole, the strife with rivals, the efforts to win the favor of the other sex, leading to thefts and other crimes the degenerate offspring that are born to immature parents, etc From every point of view therefore, the efforts of educators and social conventionalities should be exerted to delay the precocious gratification of the sexual instincts But arrived at nubility, it is equally important that the sexual instinct be legitimately gratified, and this can not be accomplished by masturbation, promiscuous intercourse or free love Besides the dangers of disease and excesses, they incite to sexual strife, activity is diverted from the wholesome field of social virtues, and the character warped, rendering it deceitful, combative and cruel He is heartily in favor of forbidding marriage to degenerates, and denounces the marriage of an old man to a still menstruating woman, on account of the degen eracy of the offspring in both cases, affecting the second generation if not the first —From abstract in the *Journal de Méd de Paris*, October 30

Congenital Syphilis —R Hecker has been studying the variations from normal in over a hundred children born dead or dying soon after birth, with congenital syphilis, and publishes his conclusions in the *Deutsches Arch f Klin Med*, 61, No 1 He notes that the vessels of the umbilic cord are always affected with specific lesions, which can aid the diagnosis in living children Typic osteochondritis of the long bones is frequent, but not invariably present The spleen was found swollen in every case The kidneys also are always diseased in congenital syphilis, evidenced by albuminuria in children that survive The liver is invariably swollen and with syphilitic manifestations —*Munich Med Woch*, October 25

Exophthalmic Goiter —A theory is proposed by C Schwerdt of Gotha, in a long communication to the *Munich Med Woch*, concluding in No 44, which explains exophthalmic goiter as a disease of the lymph and blood caused by nervous influences, in which the etiologic factors are an abnormal assimilation of chyle, an abnormal circulation of lymph and an abnormal activity on the part of the thyroid gland There is also an abnormal circulation in the collateral routes, manifested by intermittent edema, which should rank with the triad exophthalmus, tachycardia and struma The variations depend upon the individual or inherited predisposition of the organism or its parts In persons with strong muscles, instead of compensation in the line of atrophy of the hollow organs, it takes the form of hypertrophy of the muscular wall and there is enteroptosis In others, with rudimentary enteroptosis, the atony of the lymphatic system leads to typic morbus Basedowii Still others drift into myxedema or scleroderma as they enter life, and theoretically must have passed through morbus Basedowii during their embryonal existence These facts explain why neurasthenia, general atony and enteroptosis are becoming more frequent, while cases of exophthalmic goiter are rarer and myxedema and scleroderma still more seldom seen An alteration of the nervous system, of the psyche is the fundamental cause, and in the strengthening of the psychic forces lies the road to recovery, so that the physician, whatever means he adopts, is after all a psychotherapeutist

Askanazy states in the *Deutsches Arch f Klin Med*, 61 2 that in four cases examined, he found in each one an extensive and well defined affection of the striped muscles, the muscles grown through with fat, interstitial lipomatis The patients were emaciated This hitherto unnoticed lesion explains the muscular weakness, the trembling, the insufficiency of the ocular muscles, etc The nervous system was found intact to its finest ramifications in the muscles in each case The thyroid had the usual characteristic alterations —*Munich Med Woch*

Laryngitis Rheumatica Circumscripta —Uchermann describes a form of primary acute laryngitis, occurring where there is a rheumatic predisposition, without catarrh, but with solid infiltrates which rapidly disappear under salicylic acid —*Munich Med Woch*, October 25, from *Cbl f In Med*, No 39

Laparotomies at Home —Professor Rydygier has become convinced that the dangers of infection are less in a private residence than a hospital the germs encountered are not pathogenic or have not acquired virulence by "passages" He therefore advises patients with a well lighted room and means sufficient to pay for the more expensive home after treatment, to be operated on in their own residences He does not consider it necessary to remove more than the curtains, portieres and carpets from the room —*Vienna Klin Woch*, November 3

Cerebrotome and Aspirator —Radojewski describes a new instrument for very small pelves which is manipulated entirely outside of the genital parts, thus reducing the danger of infection and injury After the trunk is born the spine is cut at the second or third dorsal vertebra, and the brain chopped fine through the foramen spinosum and aspirated out, when the empty skull can be easily extracted —*Deutsche Med Woch*, 1898, No 42

Sail Cloth Operating Table —Professor Rydygier attributes the pneumonia that so frequently follows operations, to the chill from the glass or metal table top, and obviates this by having a sail cloth top made to fit over the iron frame, and removed and washed after each operation If a solid top is indispensable he uses one of hard wood The last thing before operating, he washes his face, wets his beard and hair, rinses his mouth and gargles with some antiseptic fluid, which he confesses produces rather a sensation among the spectators He never uses gloves, mask or cap, but has a couple of basins beside him to rinse his hands frequently during the operation, to mechanically remove any germs that alight after his preliminary pains taking disinfection He rejects brushes and sponges on account of the difficulty in sterilizing —*Vienna Klin Woch*, November 3

Alvarenga Prize —The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Senor Alvarenga, and amounting to about $180, will be made on July 14, 1899, provided that an essay deemed by the Committee of Award to be worthy of the prize shall have been offered Essays intended for competition may be upon any subject in medicine, but can not have been published, and must be received by the secretary of the college on or before May 1, 1899 Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author It is a condition of competition that the successful essay or a copy of it shall remain in possession of the college other essays will be returned upon application within three months after the award The prize for 1898 has been awarded to Dr S A Knopf of New York city, for his essay entitled "Modern Prophylaxis of Pulmonary Tuberculosis and its Treatment in Special Institutions and at Home"

Calmette's Gift —Dr Calmette has presented to the Pasteur Institute at Lille, of which he is superintendent, 250 000 francs, which represent the profits realized in the distilleries at Seclin by one of his inventions —*Progrès Méd* October 29

International Memorial Honors —The monument erected by international subscription at Copenhagen, to Meyer, the author of the first works on adenoid vegetations, was recently unveiled, with an address by Sir Felix Semon, the distinguished English laryngologist

Co operative Surgery and Medicine —Legendre is trying to organize an association in Paris to be composed of both physicians and surgeons, meeting from time to time to study important questions together from their different points of view, each benefiting by the experience of the other —*Progrès Méd*, October 29

Responsibility of the Surgeon —A woman died recently from sepsis, at Lyons, France, after an operation by a prominent surgeon, and the husband sued for damages The court decreed that it "would be excessive to hold the surgeon responsible for the unforeseen, extraordinary, sometimes even improbable complications, that may occur in any surgical intervention, even the most inoffensive Such responsibilities would render the practice of medicine impossible in many cases The plaintiff was condemned to pay the surgeon's fee of 250 francs and the costs of the suit, as the "death was merely a much to be regretted misfortune escaping all the previsions of science, as occurs at times in spite of all the precautions suggested by human wisdom"

Not Responsible for Acts of Physician —On the appeal of the Louisville & Nashville Railroad Company vs Foard, a personal injury case brought by Foard against the company, the company insisted that the trial court had erred in permitting the plaintiff below to prove by himself that the attending physician and surgeon, who was furnished by the Company to treat his injuries, sustained in its service, was negligent in his treatment of the wounds, and that he was rough in his treatment of him, witness going into detail, and that by reason of this bad treatment his leg had to be amputated the third time With this contention of the Company the court of appeals of Kentucky agrees, holding, Oct 7, 1898, that the admission of this testimony was improper It says that the Railroad Company was in no way responsible for the acts of the physician, or for his neglect of the plaintiff, unless it were shown that the Company was careless and negligent in his selection and that he was incompetent It maintains that in the employment by a railroad company of its surgeons to attend the persons injured by its trains, the relation of master and servant and principal and agent does not exist, and that if the railroad company is careful, and selects suitable surgeons, it is not responsible for their neglect or malpractice In this case there was no pretense that the Company was careless or negligent in the selection of this physician and surgeon, or that he was in any way incompetent, and, consequently, for the reasons stated, the court insists that the plaintiff should not have been permitted to prove the misconduct, neglect, or maltreatment of the physician, in this action against the Railroad Company

Need Not Submit Blindly —A man 56 years old stumbled over a large flat stone which was near the middle of, and several inches higher than, the sidewalk There was evidence tending to show that he fell violently and sustained, among other injuries, a rupture But when he sued the city for damages, it set up, as one of its defenses, that the next morning after the accident the plaintiff was advised by the hospital surgeon to have an operation for hernia performed, and that he obstinately and unreasonably refused to do so The plaintiff admitted that he was advised to undergo the operation, and made a mistake in not accepting the advice When it came to charging the jury, the trial judge said that the plaintiff was bound to use ordinary care to cure and restore himself, and to use such methods reasonably within his reach as would make his damage as small as possible, that he could not recklessly enhance his injury, and charge it to the defendant, and that, if the jury believed that the plaintiff declined to act upon the advice of the house surgeon and declined to submit to an operation for the radical cure of his hernia, the defendant was not chargeable with the consequence of his refusal But the second appellate division of the supreme court of New York says, Williams vs City of Brooklyn, Oct, 18, 1898 (53 New York Supplement 1007), that this was a statement of the law more favorable to the defendant than was needful It holds that the plaintiff was not required to submit blindly to professional advice He was entitled and bound, it insists, to exercise reasonable judgment, and if his conduct was that of a reasonably prudent man he was within his rights in refusing to submit to an operation, and could not be charged with negligence in that respect It may be added that on this question the jury found in the plaintiff's favor, and the appellate division affirms a judgment in his behalf

Admission of Expert Witness —Two things, the supreme court of Pennsylvania says, must concur to justify the admission of an expert witness 1 The subject under examination must be one that requires that the court and jury have the aid of knowledge or experience such as men not specially skilled do not have, and such, therefore, as can not be obtained from ordinary witnesses, 2 The witness called as an expert must possess the knowledge, skill or experience needed to inform and guide the court and jury in the particular case Upon such a question such a witness may be called, and may testify not merely to facts, but to his conclusions from the facts, because the court and jury are without the knowledge necessary to enable them to draw the conclusions for themselves without aid Thus, the court holds, Oct 17, 1898 in the homicide case of Commonwealth vs Farrell, that the question about the length of time after death when rigor mortis may be expected to set in was a question for expert medical testimony, though long experience and observation might stand in lieu of the study of books, and qualify one to speak as an expert upon this subject But the witness called in this case as an expert upon this question had no medical knowledge, had read nothing on the subject, and had no experience except as an undertaker's assistant in preparing dead bodies for burial, and his attention as an undertaker did not seem to have been specially directed to this question, while he frankly stated that he was not an expert upon the particular subject For the reasons stated, the court holds that he was not competent to testify as an expert upon that question

Marriage no Defense —In a prosecution for ravishing a female who was under 18 years, the fact that she has forgiven the accused, or has subsequently entered into the marriage relation with him, the supreme court of Kansas holds, State vs Newcomer, Oct 8, 1898, will not constitute a defense, nor relieve him from the consequences of the crime The explanation vouchsafed by the court is that, the female being under the age of consent, her consent to the sexual act constitutes no defense, and neither her forgiveness nor anything which either or both may do will take away the criminal quality of the act, or relieve the defendant from the consequences of the same The principle of condonation, which obtains in divorce cases, where civil rights are involved, has no application in prosecutions brought at the instance of the State for the protection of the public, and to punish a violation of the law It is true, continues the court, that society approves the act of the defendant when he endeavors to make amends for the wrong done to the injured female by marrying her, and usually a good faith marriage between the parties to the wrong prevents or terminates a prosecution, but the statute which defines the offense, and declares punishment therefor, makes no such provision Finally, the court says, if the defendant has acted in good faith in marrying the injured one, and honestly desires to perform the marital obligations resting upon him, and is prevented from doing so by the influence and interference of persons other than his wife, it may constitute a strong appeal to the prosecution to discontinue the same, or to the governor for the exercise of executive clemency, but, as the law stands, it furnishes no defense to the charge brought against the defendant

Indiana Dentistry Law —Section 5596 of the Revised Statutes of Indiana of 1894, provides for the appointment of a board of examiners consisting of five members, three of whom are to be chosen by the Indiana State Dental Association This section, it was contended, in Ferner vs State, was unconstitutional, as in violation of a clause in the State constitution forbidding the granting of privileges which shall not, upon the same terms, equally belong to all citizens It was argued that by said section a special privilege was given to the Indiana State Dental Association of naming members of the Board of Examiners, and prescribing the standard of qualification But the supreme court of Indiana holds, Oct 12, 1898, that said section 5596 does not contravene the constitution It says that it is not necessary that members of the Association shall be appointed upon the Board And it looks at the power to appoint as in the nature of a duty, rather than a privilege, insisting that it may not be said to be a special privilege any more than that conferred upon circuit judges to appoint city commissioners or a drainage commissioner or that the governor, the president of the State University, and superintendents of common schools shall be members of the State Board of Education, or in many other instances where non judicial functions are imposed upon judicial officers, or non executive functions are cast upon the executive, or where men, by reason of their learning, are designated to perform a service to the public Taking up the suggestion that the act in question does not afford due process of law, in that it fails to extend the right of appeal from decisions by the board, the court says that it may be seriously doubted if one who does not seek a decision of the Board may complain that he could not appeal from its action, and that it may be suggested, also, that the general rule is that appeals are recognized as allowable from judicial decisions only, and that boards of the character of that in question do not render judicial decisions Moreover, the party here charged with unlawfully practicing dentistry, and convicted, objected that the evidence did not support the verdict that he engaged in the practice of dentistry It showed that he leased and occupied rooms for several months for the declared purpose of practicing dentistry, that he had done dental work for three or more persons, that at times he engaged in filling teeth, and at other times did dental work at the bench This, the supreme court regards as sufficient to require the inference that he engaged in the practice It also thinks it quite clear that it is made a crime to practice dentistry "without being registered," registry, within the purpose of the law, relating to the permanent authority to practice dentistry, and that the temporary permit issued by any member of the Board of Examiners is a protection only until the Board shall meet to make the registry

Our Cuban Exchange—We are glad to welcome once more the *Revista de la Medicina y Cirurgia de la Habana*, which we have missed from our mail since last spring The *Revista* is a fortnightly journal, but the numbers we have just received Nos 7 and 8, bear date of April 10 and October 10 They contain no reference to any events in the interim, but calmly resume their scientific communications with the description of a case of putrefied placenta with a living child

Artificial Assistants—The burlesque number of the *Munich Med Woch*, issued on the sixty fifth anniversary of the local medical society, is an exact reproduction of the regular make up, but sparkling with fun in every line The rear outer cover is a display ad of artificial assistants for surgeons, etc "The disadvantages of the living assistants hitherto in use are familiar to all They assist, but have too many annoying 'secondary effects' Some are unable to keep their mouth shut, some have 'exaggerated reflex excitability,' some have opinions that differ from those of their chief and criticise him, some leave matches around and the gas burning, some shock spectators by their lack of gentleness These drawbacks are all entirely obviated with our new patent glass and iron assistants, transparent, sterilizable, to connect with either electric or steam power They are supplied in two grades, smooth or rough finish, for private practice or general hospital work They are adjusted for only one or two specialties each, but extra specialty appliances can be screwed on as desired Assistants for surgeons Say 'sponge' and gauze' Style *A* Wipes 10 times a minute, 1200 Marks, *B* Wipes 20 times a minute, 1300 M, *C* No hinge in back, 1100 M, *D* Without buttocks (an important improvement, allowing spectators complete oversight of the operation) 2000 M For internal medicine Do percussion, and find albumin in urine *A* Once an hour, 100 M, *B* Three times an hour, 150 M *C* Stain bacilli, 200 M For obstetrics and gynecology Style *A* Automatically perform vaginofixation on every uterus, 10 M, *B* Ditto vesicofixation (new), 20 M, C Antefixation according to indications, 200 M, *D* Abhor all therapeutic treatment of retroflexion, 600 M, etc" The leading article is a report of successful experimentation to secure asexual propagation of the human species by fission, accomplished by administering an extract, Tolstoidin, thus named from the idea having been suggested by the disapproval of the sexual methods expressed in Tolstoi's "Kreutzer Sonata"

Contributions to the Army Medical Museum—The officer in charge of the Army Medical Museum has invited attention to the possibility of enriching the Museum by contributions from general hospitals and hospital ships, and the Surgeon General of the Army has published the communication in the form of a circular from his office The contributions referred to in paragraph 147, "Manual of the Medical Department," are rare pathologic specimens from animals, including monstrosities, typic crania of Indian tribes, specimens of their arms, dress, implements, rare articles of their diet, medicines, etc, and specimens of poisonous insects and reptiles and of their effects on animals The communication is as follows The contributions to this Museum from the active theater of the recent war with Spain and from the extensive field of subsidiary operations, have been so few and unimportant that it seems desirable to renew the attention of medical officers to this important subject The hurry and peculiar military conditions of the Santiago campaign, and amount of work imposed upon the medical officers in our large camps of instruction would naturally obscure the more remote interests of the Museum, but from our large general hospitals and hospital ships and the more deliberate methods of our forces of occupation may well be demanded a return to the systematic collection of specimens illustrating the bone and tissue injuries produced by modern firearms and explosives, and a careful preservation of such illustrations of disease as may be obtained upon cadaveric examination As it will be necessary to add a guide to the preservation of specimens, the following suggestions have been prepared Soft tissues are preferably placed in a 20 per cent solution of commercial formaldehyde (or formalin), the specimen being completely covered by the solution The fluid on very soft tissue, or large masses of tissue, such as the liver, spleen, etc, should be changed after two or three days When formalin is not obtainable, commercial alcohol may be used Bones and joints, after having been roughly cleaned, may be simply wrapped in a cloth wet with the preservative solution, and then again wrapped in oiled paper or silk Since glass and earthenware vessels are liable to be broken in transit, with escape of their fluid contents and damage to the specimens, the use of tin vessels is recommended, the covers to be tightly soldered on Whatever vessel is used should be packed in sawdust, excelsior packing, stiff paper, or equivalent substitute, in a wooden box Small dry specimens may be sent by mail, and wet specimens also, if enclosed in the boxes which have been approved by the Post-Office Department Specimens should be carefully numbered, and a letter of information forwarded to the Museum when the specimen is shipped, the letter to contain the number of the specimen, a description of its nature, and if possible, its history In addition to the contributions specified, those enumerated in paragraph 147, "Manual for the Medical Department," are especially worthy of consideration, in view of the opportunities offered in our new territory Although paragraph 1130, A R, provides for the transportation of all such contributions through the Quartermaster's Department, it should be known that if the importance of the object, or security demands a more prompt delivery the package may be shipped to the Curator of the Museum by express, the charges to be paid here The receipt of any package will be duly acknowledged, and credit given for the contribution

Expensive Charity—The *Bulletin Méd* of Paris relates that a woman recently applied to the free dispensary at the 'Quinze

Vingt" for treatment, but had the thoughtfulness to remove a pair of diamond ear rings from her ears and put them in her pocket before entering the room When she received her consultation ticket she found that the solitaires, worth 4000 francs, had disappeared from her pocket, and in spite of a large reward offered were never recovered

Societies

The following recent meetings are noted

Illinois — Chicago Society of Internal Medicine, November 22, Fox River Valley Medical Society, Aurora, November 15

Indiana — Allen County Medical Society, Fort Wayne, November 15

Iowa — Eastern Iowa District Medical Association, Keokuk, November 17

Kansas — Topeka Academy of Medicine, November 14

Michigan — Saginaw County Medical Association, Saginaw, November 11

Missouri — St Louis Academy of Medical and Surgical Sciences, November 22, St Louis Medical Society of Missouri, November 19

New York — Binghamton Academy of Medicine, November 15, Kings County Medical Society, New York City, November 10

Ohio — Muskingum County Medical Society, Zanesville, November 10

Tennessee — Maury County Medical Society, Columbia, November 15

Philadelphia

BEQUESTS TO CHARITY — Through the death of William W Whitehead, a bequest of $500 has been received by the Samaritan Hospital of this city and through the death of Abraham McGarry, $1000 to St Joseph's Hospital

LAST HOSPITAL TRAIN — Recently the last hospital train was dispatched to Camp Meade by the relief commission, returning with sixty patients, who were distributed to the Woman's, St Joseph's and St Agnes Hospitals

DR JOHN BLAIR GIBBS — Many have been the honors conferred upon this distinguished physician, who lost his life upon Cuban soil, but the latest one is that of his academic alma mater, Rutgers College, which recently unveiled a memorial tablet in Kirkpatrick Chapel at that institution

MORTALITY STATISTICS — During the week just closed there have been reported to the Bureau of Health a total of 414 deaths, an increase of 17 over last week and of 75 over the corresponding week of last year Of the total number of deaths, 116 occurred in children under the age of 5 years

PERSONAL MENTION — Among the Pennsylvania soldiers being mustered out of service may be mentioned Battery A of Philadelphia In order to establish the condition of the men upon their discharge, competent examiners have been commissioned to make a thorough physical examination of the men The names of the physicians who are conducting this work are C F M Leidy, Joseph Shellissy, Ward Brinton and Walter Roberts

DEATH AMONG SOLDIERS — Within the past two weeks two deaths from typhoid fever have occurred among soldiers at the hospitals The first death was that of John M Warner, Company M Fourth Pennsylvania, who contracted the disease in Porto Rico and was subsequently brought to this city on the hospital ship *Relief* The second case was that of Samuel Pemberton of Company A, First Delaware, who contracted typhoid fever in Camp Meade and was brought here October 22

LECTURES ON X RAY — Dr Charles I Leonard is giving a series of lectures at the University Hospital on the subject of skiagraphy, describing the method and apparatus used, as well as the theory on which the subject is based In the lecture of Saturday it was proposed to describe the method of taking the photographs of different organs and different parts of the body, as well as to draw conclusions from the study of the plates, so that a diagnosis could be made of diseased conditions

QUARANTINE AGAINST HYDROPHOBIA — Whether it be true or not that hydrophobia is an acute infectious, contagious or inoculable disease, the State Board of Health has seen fit to quarantine against all dogs in a village near the northern border of the State, for a period of ninety days This action has been taken on account of an epidemic of hydrophobia there for some time among cattle, horses and swine

IMPROVEMENTS AT GERMANTOWN HOSPITAL — This busy hospital will soon have proper accommodations for an isolation ward for the treatment of cases who can not cared for in the other departments The addition is to contain three rooms for patients, one room for nurses, and one for a sick diet kitchen The addition is one story in height, with basement, built of brick and tile and will cost several thousand dollars The ward is the gift of Mr Stephen Green, and was given as a memorial to a member of his family The building will have all the latest improvements

WAR INVESTIGATING COMMITTEE — It is reported that this committee will visit Philadelphia within the next ten days Just the object of the visit is not fully known, but it is thought to be in connection with the offices of deputy quartermasters and office of Chief Medical Inspector Peyton Several are mentioned who, it is thought, will be summoned to go before the Board and testify as to what they have witnessed during the course of the war The officers of the different departments feel confident that no exception will be taken to the method in which the business of these departments have been conducted So far no complaint has been made against either official in charge of the officers stationed at this place

RELIEF TO SICK SOLDIERS — The Hospital Committee of the Woman's Sanitary League, which has been associated in the relief of soldiers at the Polyclinic, Medico Chirurgical, St Agnes, Jefferson, University and Women's Hospitals, recently held another meeting and elected officers The Executive Board consists of five principal officers, with chairmen of standing committees and other members Committees are also appointed on education, hospitals, legislation, sanitary science and municipal questions The Hospital Committee was instrumental in furnishing money, supplies and delicacies for the sick during the summer months just closed

DR CHARLES H FRAZIER — Owing to the resignation of Dr J William White, from the surgical staff of Blockley, some weeks ago, in order to assume charge of the clinical work at the University of Pennsylvania, the Board of Charities and Corrections, at a recent meeting elected Dr Charles Harrison Frazier as successor to Dr White Dr Frazier is a graduate of the University of Pennsylvania, 1889 (College) and 1892 (Medical) He was resident physician to the University and Episcopal Hospitals and subsequently resumed his studies in the University of Berlin and is a member of the surgical staff of Howard Hospital and assistant surgeon at the University Hospital and to the Out patient Department of the Episcopal Hospital, and also a member of the editorial staff of the *Philadelphia Medical Journal*

MARINE SOLDIERS — During jubilee week in Philadelphia, there were a number of sick soldiers removed from several vessels at anchor in the harbor, and transferred to the Marine Hospital Eleven of them were removed from the *Texas*, ten from the *Topeka*, one from the *Minneapolis* and one from the *Richmond* In many instances the disease subsequently proved to be typhoid fever It is reported that it is the opinion of the medical officers stationed on the *Texas*, that, as there has been no means of contact with infected men, the disease in the present instances has resulted from bad food or impure water on board the vessel In the Marine Hospital there are at present eighty eight cases, a great increase over the usual average This state of affairs has doubtless been brought about by the fact that there are more vessels here at present than have been in Philadelphia for many years

National Relief Commission —Mr George C Thomas, treasurer of the National Relief Commission, makes the following statement through the banking firm of Drexel & Company Cash previously acknowledged, $78,405 40, various donations, $68 17, value of supplies received to date, $40,345 00, grand total, cash and supplies, $118,808 57 From this report it is observed that the total amount of money is increased but little from week to week, while the work with which it is engaged necessarily goes on, from the fact that sick soldiers are transferred from army corps by money provided by the Commission Up to the present time most of the sick soldiers have been brought to Philadelphia, but it is thought that hereafter the majority will be taken to Baltimore and other cities The outcome of the trip of President John H Converse and Secretary French of the National Commission, to Washington, where they went to confer with the War Department, regarding the future action to be taken by the Commission, has not been made public, but it is believed that the visit was not altogether encouraging to the Commission Having carried on work which it was thought should have been done by the Government, the Commission had a right to expect support from that source, but up to the present time it may be said that the prospects are discouraging

Dr Benjamin Lee —At the forty first regular meeting of the State Board of Health, recently held, the secretary, Dr Benjamin Lee of Philadelphia, made his report, dealing largely with cases of communicable diseases that have occurred in various portions of the State, including inspections made and sources of pollution

A Case of Supposed Leprosy —Last week a Russian sailor was taken to the Municipal Hospital, thought to be suffering from leprosy It is stated that the man gives his nativity as Arensburg, in the Island of Oesel in the Baltic Sea, where the disease is quite prevalent

Hospitals will be Reimbursed —It is reported that it is the intention of the Government to reimburse all hospitals for the expense incurred in caring for the soldiers brought to those institutions It is a source of some gratification also to state that while the hospitals of Philadelphia were first to volunteer their facilities to the Government that in no instance (*Press*) has a bill been sent in, as has been done by hospitals of two near by cities The Government now volunteers to pay to all such hospitals sixty cents a day for each soldier so treated, and, furthermore, to reimburse all institutions who have been instrumental in sending out hospital trains to the different army camps

Rebuke for Physicians —A complaint has been lodged against the profession by a resident of Germantown, who states that cases of diphtheria are not properly reported and thereby the disease becomes more common

Poisoning by Castor Beans —Recently, while playing near a vacant lot, three children ate of castor beans which had been thoughtlessly thrown from a neighbor's garden Soon afterward all these children became violently ill, but in one case death resulted from acute nephritis While the other two children were also suffering from the same disease it appears milder, and hopes are entertained for their recovery The cases have been reported to the Board of Health by the coroner's jury, who thought the owner of the lot should be thoroughly censured for not complying with the city ordinance requiring that all vacant lots be enclosed

Proceeds of Charity Ball.—The hospitals which have already applied for proceeds of Charity ball to be given soon are Children's department of the University Hospital, Free Hospital for Consumptives, Samaritan Hospital, St Christopher's Hospital, St Timothy's Hospital, Children's Hospital

Lecture on Sick Diet —At the Food Exposition now being held in this city, Mrs Rorer, who has obtained a national reputation in the art of cooking, gave a lecture on Doctor's day, on the preparation of foods for the sick. The lecture was largely devoted to the albuminoids, and formulæ were given for such articles of diet as albuminized whey, frozen junket, chicken, panada, and beef paste The lecturer also dwelt largely upon the subject of infant feeding, especially regarding milk, taking the view commonly held by the medical profession, and the subject in this way may be presented so that much good may arise from the lecture

Diphtheria Again Rampant —Diphtheria has spread rapidly in the northern section of the city, and for the week just closed four deaths from the disease have occurred in that section The disease exists in both public and parochial schools, and the principals of those institutions state that owing to the prevalence of the disease there are many absentees, and as no one has been detailed to look after these students it is not known whether they remain away for fear of contracting it or whether they have already been affected

Dr William Ashhurst, who has for several years been practicing medicine in Mexico, has returned to the city and has established offices at his father's residence, 2000 West DeLancey Place

Dr and Mrs S Weir Mitchell will leave shortly for Europe, and subsequently, Egypt, where they go for the benefit of the health of Mrs Mitchell, who has been slowly convalescing from the serious illness of last winter

Dislocation of Ensiform Cartilage —A man weighing 200 pounds has been admitted to St Mary's Hospital for a dislo of the ensiform cartilage The patient is an employe of a large mill, and it is supposed that the injury was received while performing his usual duties in lifting several heavy gates about the premises

Washington

Health of the District —The report of the health officer for the week ended November 12, shows the total number of deaths to have been 98 69 white, and 29 colored The principal causes of death were Nervous diseases 11, circulatory 7, genito urinary 6, consumption 15 There were 5 fatal cases of typhoid fever, 4 of diphtheria, 1 each from whooping cough and scarlet fever At the close of the week there were 130 cases of diphtheria and 120 of scarlet fever There were 121 births, of which 61 were white and 63 colored

Central Dispensary and Emergency Hospital —At the meeting of the Hospital Board, November 11, the report of the attending staff showed a steady increase in the work of the hospital The board has decided to make extensive improvements in the building The operating and the emergency rooms are to be remodeled and new tile floors and steel ceilings placed throughout the building The Ladies' Auxiliary Board has offered to appropriate $800 to assist in the improvements

Contagious Hospital Fund —At the special meeting recently held by the Daisy Chain Hospital Promoters, it was decided to donate the $12 000 to the Garfield Memorial Hospital to assist in building the contagious disease hospital, now in course of erection The funds are available immediately

For Removal of Weeds —Health Officer Woodward has prepared a bill enforcing the removal of weeds from building lots in the district The Bill provides that whenever there are weeds four or more inches in height within the district, the owner or occupant of the premises shall remove the same after seven days' notice A penalty of $10 fine is provided

Pure Food Law Enforced —Three grocers were recently fined $15 each for violating the Pure Food Law It was shown in court that they exposed for sale and sold a commodity called lard, which, after examination by the district chemist proved to contain no lard whatever, and which was a mixture of beef tallow and cottonseed oil The health department is rigidly enforcing this law and, as a result, many of the adulterated foods are disappearing from the shops

Will of Dr Harrison —The will of the late Dr George

Byrd Harrison has been filed for probate with the registrar of wills The instrument was made in 1883, and bequeaths all his immense estate to his wife

ANOTHER SURGEON SUED —One Forest has recently entered suit against Dr Thomas P Mallon of the Providence Hospital, seeking to recover damages in the sum of $10,000 The usual declaration is set forth, "incompetent doctor, short leg, subsequent pain and suffering, and a need of money to soothe the woe " This is the second suit of its kind recently entered in the District, and the doctors may expect an epidemic of such suits It is rumored that a son who was born with a short leg is about to enter a suit for damages against his mother

MILITARY SURGEONS ASSIGNED —Major John W Bayne, brigade surgeon, U S V , has been ordered to Washington and placed in charge of all sick men of the Army arriving here Acting Asst Surgeons Chas G Marbery and George D Morris have been ordered to return from Chickamauga and Porto Rico, respectively, and report in person to the Surgeon General

Louisville

KENTUCKY UNIVERSITY —The announcement of the Medical Department of Kentucky University has just been issued, with the following faculty T C Evans, dean, professor of ophthalmology, otology and laryngology, Henry E Tuley, secretary, professor of principles and practice of medicine and diseases of children, Leon L Solomon, professor of materia medica and therapeutics and of pathology, Carl Weidner professor of physiology and histology, W Ed Grant, professor of chemistry and cutaneous and genito urinary diseases, J Garland Sherrill, professor of surgery, Henry L Stone, A M , professor of medical jurisprudence, and the following clinical professors T E Evans, ophthalmology, otology and laryngology, Henry E Tuley, diseases of children, Leon L Solomon, medicine, Carl Weidner, medicine and diseases of the chest, Henry R Koehler, cutaneous and genito urinary diseases, Louis Frank, gynecology and abdominal surgery, J Garland Sherrill, surgery The following are of the corps of instructors and laboratory directors Sam Holloway surgery, Geo C Leachman, anatomy, John E Hays, histology and bacteriology, Louis Rominger, histology Kentucky University is the result of the coalition of Bacon College and Transylvania University in 1799, since which time it has been known as Kentucky University The University comprises four colleges, each under the government of its own faculty, and an academy or preparatory department, in charge of a principal and assistants The four departments are located at Lexington, Ky , but the curators of the University, desiring to establish the Medical Department, have chosen Louisville for the location of it The College has adopted the requirements of the Association of American Medical Colleges and the teaching will be upon the broadest and most enlightened line of medical teaching It has obtained quarters in the building formerly occupied by the Louisville College of Pharmacy and has fitted up elaborate laboratories and clinic rooms, there being already adequate lecture rooms

CONTAGIOUS DISEASES —A change has been made in the law governing the reporting of contagious diseases, to include typhoid fever, consumption and whooping cough The list already includes scarlet fever, diphtheria, smallpox and cholera

Detroit

WAYNE COUNTY MEDICAL SOCIETY —At the regular meeting held November 17, Dr J A Weitz read a paper on "Infantile Paralysis " He said that the prophylaxis and management of infantile paralysis were not given the attention that they should have by the medical profession generally The belief was too common that it is beyond our power to prevent in any measure the occurrence of the evil or mitigate the results He divided the cerebral palsies of infancy into three classes fetal, natal and post-natal The fetal cases, he said, are evidently the result of prenatal influence, due mainly to errors in development, with occasionally a case dependent upon traumatism or infection in utero As to post natal cases, all evidences point to vascular obstruction as the lesion, whether thrombosis or embolism, is not definite Toxemia in childhood often produces convulsions and temporary loss of power, but these are not included in the class of post natal infantile paralysis or hemiplegia Convulsions in young children, from apparently trivial causes, are so frequent, without serious result, that the profession are not sufficiently awake to the grave possibilities surrounding a case of this kind We are thus frequently taken by surprise In the class of cases mentioned as natal palsies the pathology is quite definitely settled, although investigations have been comparatively recent The cause is probably always meningeal hemorrhage In the prenatal cases our duty consists largely in the proper care and management of the prospective mother In post natal cases we have a similar office to perform in the management of the children among our clients, with the additional duty of directing the training of the residue of brain after an injury of this kind, besides conducting the case through the attack of acute symptoms As the cases of cerebral hemorrhage are nearly always due to traumatism at the time of labor, we have a more active duty to perform in the matter of prophylaxis and in the active interference for the relief of the lesion The cases are always due to difficult labor, where instrumental delivery is called for, so it behooves the physician to make vigorous efforts to prevent the condition which would give rise to a difficult labor Where the lesion has occurred surgical interference should be tried for the relief of the condition

CHANGE OF ADDRESS

Anderson J A from 8042 Edwards Av to 151 Cheltenham Pl , Chicago
Blue W R from 1807 4th St to 2205 3d St Louisville Ky
Catlin, G E , from Lake Geneva to L B 532 Marshfield Wis
Cummings Wm from 5th and E Sts to 820 5th St San Diego Cal
Davisson, J A from Eldorado to 715 Washington St Dayton, Ohio
Earll R W from Columbus to 2211 Cedar St , Milwaukee
Gale M G from Rowena to 1940 Washington Av Denver Colo
Gibben, J H , from Jefferson Barracks Mo to 324 S 19th St , Philadelphia, Pa
Greenley T W from Leon Lake to Lake Placid N Y
Hagopian, S M from Boston Mass , to Exeter Rall, The Strand, London W Eng
Haw U P from Farmington to Commerce Mo
Hazelwood A from Shepherd to Aldrich Blk Grand Rapids Mich
Hulen A H from Galveston Texas to 71 W 49th St New York City
Lisle J B from Georgeville, N C to 97 W High St Springfield Ohio
Ransom C C from Richfield Springs to 152 W 48th St New York
Schoofs J Z from Remson Iowa to Johnsburg Wis
Shoemaker, S E , from Reiffsburg to Poneto Ind
Smith W O from New Castle Pa to Toledo Ohio
Westnedge R B from Dubuque Iowa, to 576 Jackson Boul Chicago
Wright, J C , from Chicago Ill to Clear Lake Iowa

LETTERS RECEIVED

Alton, C D Hartford, Conn Ammonol Chem Co New York City, American Therapeutic Co New York City

Baldwin, J F Columbus Ohio Barto F C Plainview Ill Behl W H , Salt Lake City Utah Bracken H M Minneapolis Minn , Bulson, A E Jr , Fort Wayne, Ind

Cantwell B F Earleville Mo , Chandler A W , Compton Ill , Chicago Medical Book Co Chicago Cokenower J W , Des Moines, Iowa Conkey E R Waterbury Conn

Daniel F E , Austin, Texas Dennis F S New York City

Earl G W Hermansville Mich , Eshner Augustus A , Philadelphia

Gahm J P Ellisville, Ill

Haist E A , Brimley Mich Haw, U P , Commerce Mo , Hertzler, A E Halstead Kans Hubbell A A , Buffalo, N Y , Hummel Adv Agency A L New York City

Kempson J F & Co New York City Kierman, J G Chicago Kress & Owen Co New York City

Long J D Chicago

Maker L E Sac City Iowa Malsbary, G E , Cincinnati Ohio Mathews J M Louisville Ky Memminger A , Charleston, S C Merck & Co New York City Merrick M B Passaic, N J Milliken & Co J T St Louis, Mo Medical and Surgical Review of Reviews Ltd London Eng Moe A J Chaseburg Wis Morse Adv Agency L D New York City Morini Vincense Rome, Italy Morris Wm , Lebanon Ill Moss R H Niagara Ky Mulford Co , H K , (2) Philadelphia Pa

Otterson W D Hillsboro Bridge N H

Palatable Water Still Co Chicago, Phelps A M , New York City Platt H B New York City

Ralston C D Arcola Texas Richardson, S W , Cleveland Ohio Robinson R R Wakefield R I

Stroburg J A , Burlington Iowa

Thruston John Louisville Ky

Wells W A Washington D C Wheeler C T Lexington, Ky Willson & Co H B , Washington D C Wine, R E Sewanee, Tenn Wingate U O B Milwaukee, Wis Woldert E A , Philadelphia, Pa

Young J P Empire, Ohio

The Journal of the

American Medical Association

Vol XXXI CHICAGO, ILLINOIS, DECEMBER 3, 1898 No 23

ORIGINAL ARTICLES

PRINCIPLES OF THE DIETETIC TREATMENT OF DIABETES MELLITUS

Read before the Chicago Society of Internal Medicine Nov 22 1898

BY C W PURDY, M D, LL D
CHICAGO ILL

I have been greatly honored by this society in an invitation to present before its members some of my views upon diabetes While such a task is by no means an unpleasant one, in view of the great intrinsic interest of the subject, the importance of the class of cases in clinical practice and, lastly, the familiarity of the picture to my mind, in consequence of having with considerable care and thought gone over this field with special interest for a number of years I must, however, confess some hesitation in the undertaking, since very divergent views have been held upon the subject by so many eminent observers, not only as to the etiology and pathology of the disease, but also as regards its proper management In addition to this the literature of the disease—which is prodigious in volume—is yet so inharmonious and even contradictory, as a whole, that it is exceedingly difficult to glean from it any very uniform or systematic basis of knowledge of the true nature or pathology of the disease But while our knowledge of the nature and pathology of diabetes at present rests very largely upon theory and speculation, experience has taught us much that is valuable in the management of the disease, and therefore, it has seemed to me that the present discussion might prove most valuable and useful if confined largely within the limits of management I have consequently chosen as the subject for present consideration the principles of the dietetic management of the disease, to which has been added a request that I make some special reference to the disease as it appears in the aged

The dietetic management of diabetes has been a somewhat stereotyped matter for very nearly a hundred years, the old diet lists and forms having been perpetuated both in clinics and in text-books with comparatively few alterations since the days of John Rollo This is the more regrettable in view of the fact that very decided advances have been made upon this subject within a comparatively recent period, so that our power of controlling the disease and of conserving the lives of these patients has been very distinctly advanced

As regards the disease in the aged So far as my own individual experience and observations are concerned, I have come to look upon diabetes after middle life as one of the most manageable diseases with which the physician has to do, if he only has entire control of the patient So strong, indeed, has become my conviction of this fact as it appears to me, that I am in the habit of meeting the issue squarely with my patients in the assurance that if they fall victims to the disease it will be the result either of their own or my neglect I refer here especially to primary cases in people over 50 years of age, who have not already been neglected to the extent that the disease has made serious inroads upon the strength, and especially upon the body weight, of the patient On the other hand, the compact between the physician and patient must be of the most solemn and vigilant order if the concerted assault upon the disease is to prove successful, because no other disease demands more detailed observation and closer watchfulness in all details of management, and the reasons therefor will be considered subsequently

The diet of diabetic patients should be so ordered as to maintain and, if possible, increase the body weight and strength of the patient, as these are the first to be undermined by the disease Now, in order to compass these primary objects, a systematic series of frequently recorded observations must be made of the quantity and quality of the food actually ingested of the quantity and quality of the waste excreted, especially by the kidneys, and of the actual body weight By this means only is it possible to detect those disturbances of metabolism caused by the disease and to refer directly to their cause We shall be in a position still better to estimate these if we first take a brief survey of the relative and actual values of the various food products at our command By comparing these with the known physiologic requirements in health, we shall be enabled the most readily to supply those deficiencies caused by the disease, and thus maintain that equilibrium of metabolism upon which all successful management depends

In physiologic observations it has become the custom to adopt Rubner's suggestion of measuring body energy or force, which results from oxidation changes in the economy, by the unit value of the calorie—or the heat unit We understand by the word "calorie the amount of heat necessary to raise one kilogram of water one degree Centigrade It has been ascertained after careful and repeated investigations that all our food products, through their consumption in the body, produce definite amounts of heat, or the equivalent of this measure in the form of force By grouping together the various food products in their several chemic groups we shall be able readily to glance at the calorie value of each, and thereby adjust our diet list so as to cover the actual requirements of the economy For example, it has been found that one gram of albumin, through its conversion into urea, water and carbonic acid yields approximately four calories of heat or force that one gram of carbohydrate, through its conversion into water and carbonic acid, yields approximately the same, i e, four calories, that one gram of fat, by its conversion into water and carbonic acid, yields a [illegible] e over [illegible] calories, and that one gram of [illegible] ld seven calories With these data before us it is easy enough to establish a diet-ration that will readily maintain the equilibrium of metabolism in a healthy individual, since all we have to do is to furnish him food in quantity and quality such as will represent 2500 to 3000 calories Thus from 100 to 120 grams of albumin, 55 to 70 grams of fat and from 400 to 500 grams of carbohydrate would cover the requirements, and these are about the average proportions of each naturally used in health

In the case of the diabetic patient the problem is not so simple, because the carbohydrate foods in such cases are rendered more or less inefficient for the reason that they are more or less—indeed, sometimes totally—excreted in the urine as unused or waste material We can very readily perceive what a serious obstacle is placed in the way of supplying the normal amount of nutritive material by the withdrawal of the whole or even a considerable proportion of the carbohydrate group, constituting as it does normally at least 60 per cent by weight of the whole daily ration Fortunately, however, in many cases of diabetes—in fact, in most cases after middle life—a very considerable capacity of utilizing carbohydrates remains In such cases we may, therefore, give more or less carbohydrates, and the deficiency in heat or force units remaining may usually be made good by increasing the proteids I have frequently in such cases been able to give from four to six ounces of ordinary table bread daily without causing sugar to appear in the urine, and this represents a calorie value of from 400 to 500 units

As previously indicated, there exists among diabetic patients the greatest differences in individual capacity for utilizing the carbohydrates Some can take and utilize comparatively large amounts, as has just been shown, others very much smaller amounts, while a few can not take carbohydrates in the smallest quantity without their immediate escape by the urine in the form of sugar Not only this, but also very wide oscillations of the tolerance for carbohydrates occur in the same case at different, and sometimes, very briefly separated periods We are not always able to fix upon the precise cause of these oscillations, because we are not entirely familiar with all the influences which lead to them, but they furnish us one of the strongest reasons for constant vigilance over the balance of metabolism Again, some cases may ingest 200 grams of carbohydrate food and lose 45 or 50 grams by the urine, leaving available for the system 150 grams, nearly 450 units In such case it is clearly good policy to allow a moderate proportion of carbohydrate food, both for its value as a strengthening and building material and for the variety it offers the patient in his daily ration

Unfortunately, in some cases of diabetes, comprising chiefly spare subjects in the aged, and at some time all young subjects of the disease, carbohydrates can not be used without their total escape in the urine In such cases the use of carbohydrate foods in any considerable quantity is distinctly injurious to the patient in more ways than one In the first place, if these cases are put upon carbohydrates, in time they develop a decidedly decreased capacity for assimilating starch and sugar in all forms, because the cells concerned in sugar consumption are functionally weak and impaired, and their overwork leads with certainty to total impairment of function In addition to this, the increased percentage of sugar in the circulation—hyperglycemia—which always occurs under such circumstances, can not but be responsible for at least some of the many secondary complications of the disease, and in the aged especially, I might mention the damage so often resulting to the cardiac muscle, which so suddenly terminates the lives of so many aged diabetics Again, if carbohydrates be liberally supplied in severe cases, they are not only of little or no use to the patient, but they take the place of other foods which would be valuable in sustaining nutrition The picture must be familiar to all of you, to see diabetics who tell you that they can not get enough to eat, and are weak and spare They eat and stuff themselves, yet grow daily weaker and more emaciated because their food largely escapes as waste unutilized by the organism While the stomach is overloaded the tissues are starved We may, therefore, safely accept the proposition that the use of carbohydrate foods in the severe grades of diabetes surely proves injurious if, indeed, not dangerous, and hence we must look to other sources to supply the deficiency made necessary by the withdrawal of this class of foods

If we turn to the proteid group with the view of making this the exclusive source of supply, we are met by the serious fact that it is an absolute impossibility to introduce enough nutritive value in proteid to compensate the daily loss of material and force in the economy Noorden points out that "1000 grams of meat and six eggs furnish at most but 1500 calories, a deficit of at least 1000 calories remains with its injurious consequences," if we attempt to diet these cases exclusively on proteids, and yet an exclusive meat diet has among us enthusiastic advocates It is clear, however, that we can only increase the ratio of proteids with safety to certain limits, after which we must look to other sources to supply the deficiency resulting from withdrawal of the carbohydrates It is precisely in this direction that the greatest advance has been made in the dietetic treatment of diabetes in recent times By the substitution largely of fat we obtain a closely allied group of foods, chemically speaking, which represent a value in units nearly three times greater, and eminently suitable for our purposes The French school was the first to recognize the value of the use of fats in these cases, and this principle has been incorporated in the French practice for a considerable time past More recently it has been adopted in Germany and with much success It has already been shown that the calorie value of fats is over 9 units per gram, while that of proteid and carbohydrates is only 4 units It so happens in diabetes, for the most part, that there is a remarkable tolerance for fats, indeed, many of these patients have a special liking for fatty foods In moderate grades of diabetes no difficulty will be encountered in substituting fats for a partial withdrawal of carbohydrates These cases will, under such management, lose their glycosuria, gain in weight and strength, and progress most satisfactorily The only question in this connection calling for serious consideration is that of the entire substitution of proteid and fats for carbohydrates in those graver forms of the disease in which all the carbohydrates taken into the system are immediately eliminated, or still more serious when even larger amounts of carbohydrates are excreted than are taken into the organism, as is sometimes the case The argument that diabetic patients will not assimilate large quantities of fats has been repeatedly disproved, both experimentally and in actual practice, so that the converse of this may be accepted as a rule to which there are few exceptions Indeed, as much as 150 grams of fat have been given—representing 1350 calories—and with results most satisfactory It has been demonstrated through Weintraud's experiments and observations upon metabolism, that the entire substitution of fats for carbohydrates effectually prevents the wasting of the body albumin and conserves the weight and strength of the patient

There has existed a somewhat prevalent idea—although an entirely theoretic one—that large amounts of flesh foods predispose to diabetic coma Now what little we think we know of the nature and cause of diabetic coma at present rests upon pure theory In actual practice we certainly find that diabetic coma usually arises in those cases attended by a high percentage of sugar in the urine, and moreover, usually at the period or soon after the sugar excretion reaches its maximum Furthermore, we are taught to believe and, I think, properly so, that the lower we are able to reduce the sugar percentage in the urine, the further shall we remove the patient from the danger of the appearance of coma It should be borne in mind that an exclusive proteid diet is not here advocated, but rather the discussion is in favor of a proteid and fat diet in certain cases I can not perhaps more tersely express the advanced views upon this question in conclusion than in the words of Noorden, to whom we owe so much for his classic digest of our knowledge on the subject He says "From what I have been able to glean from the literature, from what I myself have seen, and from what has been related to me by other judicious partisans of the fat-and-flesh diet, it appears to me that the dread of coma so produced is wholly unfounded I believe, therefore, that for every really grave case of diabetic glycosuria, the fat and flesh diet to the exclusion of carbohydrates is to be regarded as the ideal regimen, against which no serious objection can be raised"

It remains in this connection to speak of the place that alcohol should occupy in the regimen of the diabetic, or if its use be advisable at all, and this question should receive careful and sincere consideration We must, in the first place, keep in mind the well-known dangers of the use of alcohol to the nervous system, especially when employed in considerable quantities, and, moreover, we must not lose sight of the fact that the majority of diabetic patients are decidedly neurotic So thoroughly has this been recognized, that many observers have claimed for the disease a nervous origin Without admitting the latter as true, but recognizing the undoubted neurotic tendencies of these patients, it is clear that the use of alcohol has its dangers, especially if allowed in any large amounts, and therefore, if admissible it must be with due caution and only within strictly moderate limits On the other hand, we can not ignore the fact previously alluded to, viz,, that alcohol is an agent of considerable value as a food, possessing, indeed, about 7 units per gram, or nearly double that of proteid and carbohydrates Now, in the more serious cases, where the range of diet is so limited, any change whatever comes as a decided relief both to the palate and stomach The sense of relief to a full stomach by the post-prandial swallow of cognac is well known We are also aware of the stimulus to the appetite and digestion afforded by the use of a glass or two of good wine, especially when served with the meat course, and particularly is this the case if much fat is served It is precisely here that alcohol may be made valuable to diabetic patients as an adjunct food By serving alcohol in proper quantity with the fatty foods, it enables the patient more readily to increase his fat ration, while at the same time, by furnishing in itself considerable potential force—about 70 calories to the average drink of spirits as whisky—it reduces the actual amount of fat required by an equal number of units This is important where so much fat is to be consumed, but especially so in the more limited class of cases in which fats are not very well tolerated Noorden lays down the rule that the average daily allowance of alcohol in ordinary cases of diabetes should not exceed 60 grams This in itself represents a value of 420 units This quantity of alcohol (60 grams) is contained in about 4 ounces of whisky, in brandy it would be about 3½ ounces, in white table wine, as Moselle, it would be 30 ounces, in medium grades of claret it would be 23 ounces, in good Burgundy it would be 24 ounces In prescribing alcoholics each case should be studied upon its individual merits In some cases the amount should be more moderate than above indicated, especially in those who are unaccustomed to its use, in very young subjects, and in the very pronouncedly neurotic On the other hand, exceptional cases are met with in which 60 grams of alcohol may with benefit be considerably exceeded, notably in those long accustomed to its use

Having now somewhat broadly reviewed the essential principles upon which the dietetic treatment of diabetis mellitus should rest, I shall, in conclusion, briefly outline what seems to me the most desirable method of their application in practice In beginning the treatment it is generally conceded that a gradual enforcement of dietary restriction is safer than an abrupt change from a liberal to a strict diet Aside from the more serious accidents—such as coma—which some authors fear from abrupt changes, we shall certainly meet with pronounced digestive disorders if we change a liberal mixed regimen for one containing, say 650 grams of meat per day I usually, therefore, in the beginning furnish the patient the following list of articles allowed·

All meats, including beef, mutton, veal, ham, bacon, poultry and game of all kinds—roasted, boiled, potted, smoked or preserved in any way except with sugar Sweetbreads kidneys, heart, tongue, tripe, brain, giblets and marrow bones, American canned meats and meat extracts, Australian corned beef

All kinds of fresh fish, including oysters, crabs and lobsters Dried, cured or smoked fish, including codfish, haddock, herring, mackerel, eels, sturgeon, salmon, sardines, anchovies, shrimps, caviar, frogs and turtles Fats, oils (animal or vegetable), butter, gelatine Eggs, raw or cooked any way except with flour Fresh vegetables, including spinach, lettuce cucumbers, green string beans, asparagus cauliflower, red and white cabbage, Brussels sprouts *soft green corn on the cob*, mushrooms, onions, cress, leeks, celery, radishes, oyster plant

Preserved vegetables, including tinned asparagus French beans, cucumbers pickled in brine or vinegar, mixed pickles, chow chow, olives, sauerkraut, tinned French peas Eggs, cheese cream, butter, gelatin and all fats and oils Spices, including salt, pepper, mustard curry, cloves nutmeg parsley, capers, etc Soups and broths, if clear and unmixed with bread crumbs, flour, barley rice or cereals Nuts, as almonds, walnuts, Brazil nuts and filberts Tart apples, strawberries lemons, gooseberries, currants and tomatoes in moderation, if prepared without sugar, —— ounces of table bread a day

Beverages —Pure water, all table mineral [illegible] tea with or without cream, Rhine wine, Bu [illegible]

You will observe that a blank sp [illegible] bread allowance, which is usually ounces per day Under the head of special instruction to the patient, directions are usually given to aim at the daily use of from 300 to 400 grams of butcher's meat, about 70 grams of fats, after which the balance of the daily ration may be filled in from the list *ad libitum* On the third day, careful observations should be made and recorded of the following leading features The weight of the patient as compared with that recorded three days before, the quantity of the urine, the total output of urea and sugar for the last twenty-four hours The patient should now be kept upon practically the same lines of diet for from ten days to two weeks, observations being made and recorded of the weight, the excretion of urea and sugar every second or, at most, third day and no specific medication whatever should be employed Should, however, the twenty-four hours mixed urine at any time be found sugar free, the allowance of bread may be slightly increased—say to four or five ounces daily At the end of two weeks, if the urine be not free from sugar, the above diet list is substituted by the following more strict one

All meats, including beef, mutton, ham, bacon, poultry and game of all kinds, roasted, broiled, smoked, potted or preserved in any way except with sugar or prohibited vegetables Sweetbreads, kidneys, heart, gizzards, tongue, brain and marrowbones Fresh fish of all kinds, except oysters Dried, cured or smoked fish, including codfish haddock, herring, mackerel, salmon, crabs, lobsters, sardines, anchovies, shrimps, eels, caviar, frogs and turtles Fats, oils (vegetable or animal), butter

Fresh vegetables, including spinach, lettuce, cucumbers, green string beans, asparagus, cauliflower, red and white cabbage, Brussels sprouts, mushrooms, onions, cress, leeks Preserved vegetables, including tinned asparagus, French beans, cucumbers pickled in brine or vinegar, mixed pickles, sauer kraut, chow chow and olives

Spices, including pepper, salt, curry, cloves nutmeg, English mustard, parsley, dill, capers, caraway seed, laurel Soups and broths, if clear and unmixed with bread crumbs, flour, barley, rice or cereals Cheese, such as Neufchatel, Gorgonzola, Stilton, Brie, and so called cream cheeses Eggs, raw or cooked in any way without admixture of flour Nuts, such as almonds, walnuts, Brazil nuts and filberts

Beverages —Pure drinking water, all table mineral waters, plain or carbonated, clear or mixed with lemon or lime juice, coffee and tea with or without cream Rhine wine, claret, Burgundy

It will be observed that in this list bread is omitted altogether and that carbohydrates are practically eliminated from the ration The patient is now instructed to increase the consumption of butcher's meat to from 400 to 500 grams per day, to increase his daily fat ration to 100 grams, and to take from 20 to 40 grams of alcohol daily The same systematic series of recorded observations should be continued every second or third day, i e, of the weight of the patient, the quantity of the urine, the output of urea and sugar

The majority of diabetic patients will upon this course lose their glycosuria, and begin to gain in weight and strength In such cases the further management of the case consists in readjustment of the diet, from time to time, so as to offer the patient as much variety as possible Thus at intervals a slight increase of carbohydrates may be tried—as an ounce of bread—in order to test the toleration point for this class of foods, but in so doing constant watch must be kept over the output of urea and the presence or absence of sugar in the urine

In the most serious form of the disease the above lines of management will often be found inadequate to totally eliminate the sugar from the urine, and moreover the patient still slowly loses weight In such cases the diet must be practically restricted to flesh, fat and alcohol, with perhaps some green salad as lettuce or cucumber The daily ration should be made to conform approximately to the following features 500 to 650 grams of butcher's meat, a pint of broth, 3 to 6 eggs, 130 to 140 grams of fat, and 40 to 60 grams of alcohol This will furnish fully 2500 units or calories, or slightly more The large proportion of fats to be consumed presents, perhaps, the most difficult part of the dietary problem to be solved This, however, becomes less difficult in most cases, if alcohol be served with the larger meals of fat Then, too, if every opportunity be improved of working into the ration some form of fat that is found agreeable to the patient, the required amount is often very easily reached With the view of facilitating this object I furnish my patients of this class the following list of highly fatty foods from which they can select the most agreeable forms for use

Butter, fats and oils, cream, marrow bones, bacon, fat part of ham, beef, mutton, pork, beef tongue, fat goose, mackerel, salmon, white fish, eels, sturgeon, sardines in oil, yolk of eggs, German sausage (Cervelatwurst), Cheddar cheese, also cream cheeses, as Stilton, Neufchatel, Stracchino, Gorgonzola, Brie Green salads, as lettuce and cucumber, with French dressing

The greatest skill in the management of these cases consists chiefly in the adjustment of the diet to the individual case, in other words, in so varying the proportions of proteid and fat as to suit the variable individual tolerance for each in each special case We must in all cases aim to supply in fat and meat combined a food value equivalent to rather more than 2000 units The average case will probably tolerate about 600 grams of meat and about 135 grams of fat, which covers the value in units aimed at In the beginning it will frequently be found difficult to exceed 100 grams of fat, and in such cases we must try a proportionate increase of proteids until we can increase the toleration limit of fats The latter is to be attained by judicious use of alcohol, up to 50 or 60 grams per day, served with the fat ration, and by experimenting with different forms of fatty foods until those are found that agree best with the case The evidences of non toleration, in other words, excess of proteids and fats, is marked by loss of appetite, sometimes vomiting, attacks of diarrhea, with gastro intestinal catarrh Upon the appearance of such symptoms the quantity of food must be reduced for a time and astringent alcoholics, such as claret or cognac should be employed Sometimes a very large supply of proteid food may seem to be tolerated, at least it does not cause any material disturbance of the stomach or bowels, but upon careful observation of the urine, a distinct augmentation of sugar excretion is noted as a consequence In other words, it is not uncommon to find that in pushing the proteid ration to say 700 grams of meat per day, that considerable sugar appears in the urine and that if the meat be reduced to 500 grams per day, the sugar totally disappears from the urine The explanation of this phenomenon is as follows In the decomposition of the albumin molecule of the food in the process of digestion, a very considerable amount of carbohydrate is liberated therefrom—at least 35 per cent of the albumin by weight So long as the system is able to utilize all the carbohydrate resulting from the cleavage of the albumin ingested, the proteid ration is below the metabolic toleration point and the urine remains free from sugar, but so soon as this is exceeded the toleration point is passed, even though the stomach may be able to retain more with comfort, and sugar appears in the urine

It is impossible within the necessary limits of this paper to do more than outline the main features of this subject The details, if more minutely followed, would occupy altogether more time and space than are at my present disposal It may, however, be stated in conclusion, that the careful adjustment of the foregoing ration to the daily life of the diabetic patient with comfort and complete toleration in accordance with the principles laid down, so as to maintain a perfect balance of metabolism, constitutes the highest skill attainable in the dietetic treatment of diabetes It also probably marks the present zenith line of our dietetic resources in this disease

SUGGESTIONS ON THE LIMITATIONS AND TREATMENT OF JUVENILE CRIMINALS

Presented to the Section on State Medicine at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY DANIEL R BROWER, A M, M D, LL D
Professor of Mental Diseases Materia Medica and Therapeutics, Rush Medical College Professor of Nervous Diseases Woman's Medical College Northwestern University
CHICAGO ILL

The growth of the criminal class is nearly three times greater than the growth of the population Such is a reasonable deduction from the publication of the Eleventh Census of the United States, and this blot on our civilization demands treatment

It is a great question—one that can not be settled by the courts and the church It contains within it many problems that can only be solved by the wise physician Crime has a physical basis, biologic conditions are directly and indirectly important factors in determining human action Conditions more or less pathologic exercise a most important rôle in the production of crime It requires but a glance at the inmates of a reformatory or penitentiary to satisfy one self that criminals are physically inferior, exhibiting on every side stigmata of degeneracy They have features that differentiate them from their more fortunate brethren They come into the world—at least 30 per cent of them—with an inheritance that they could no more overcome than they could the course of the sun and, combined with this vicious inheritance, there has been a no less bad development in the midst of ignorance, poverty, and crime Our jails are the nurseries of crime The juvenile offenders here receive valuable lessons in crime, how to do it most skillfully and with the least danger of detection, and when their time of release comes they go out much better equipped to follow their occupation successfully

Morrison, in his admirable work on "Juvenile Offenders," establishes, beyond contradiction the following four important propositions 1 that the death-rate among juvenile offenders is higher than among the general population 2 that they have sprung from short-lived parents 3, that their average stature is three to four inches lower and their weight 30 per cent less than children of the same age in the general population 4 that their mental capacity is much below normal These propositions establish the fact that the juvenile offenders are degenerates and if so, the repressive agencies in the shape of prisons and police are altogether inadequate to cure them

In order to limit those criminals society must stop their propagation Dougdale found in the Juke family 1,200 criminals and paupers as the output of one vicious ancestor in seven generations McCulloch found 1,750 criminals and paupers in six generations as the progeny of "Ben Ishmael" and these cases are by no means exceptional We must have therefore, laws regulating marriages, and, in formulating such laws, we must remember the close relation between alcoholism other forms of inebriety venereal diseases, and degeneracy We must, however bear in mind the fact that the subjects of insanity epilepsy, and tuberculosis are all alike accompanied by such marked involvement of the nervous system that their progeny are usually inferior physically, and hence liable to drift into this large and rapidly growing class

The marriage license, in addition to present requirements, should demand evidence that both parties are in good health, that they are not inebriates not epileptic, not tuberculous, not insane, not criminals, not paupers, and that they have no active venereal disease The limitation, moreover, demands that the children of vicious parentage be speedily identified and taken from their bad environments before they become criminals, placed in charge of suitable custodians, to be appointed by the courts, and when properly educated and trained in some useful employment, they be given a reasonable capital with which to begin life, unless it shall be found by competent medical authority that they are incorrigible—and then they should be permanently secluded

The juvenile criminal should not be placed in a common jail when arrested, for in this nursery of crime his malevolent tendency will simply be more fully developed, and, if he is an accidental transgressor, it is most reprehensible to brand him as a "jail bird," for, with this added stigma, his reformation will be made more difficult Special provision should be made for him while waiting trial, so that the good, rather than evil, that is in him may be developed If convicted, he should be sent to a reform school, where his physical, normal, and intellectual powers will receive proper development, where he will be taught some useful occupation that will, in after life give him a reasonable means of livelihood where he will receive such attention from a physician versed in criminal anthropology as his condition requires and who will assist ultimately in determining the question of his curability, or incorrigibility When he has been cured he should be discharged and given a reasonable sum of money as a capital with which to maintain himself until he can make a start in his legitimate life work This scheme for the treatment of juvenile offenders is no dream but is a realization in 'Darkest Russia'

This plan is now and has been, in successful use for many years in Moscow, and our reformatories at Pontiac Ill and Elmira N Y are steps in the same direction The treatment of criminals is just as illogical today as was the treatment of the insane one hundred years ago and the reform must come through the beneficent influence of the self sacrificing and philanthropic members of this great medical association

---

Let us have a Department of Public Health'

STATE REGULATION OF MARRIAGE FOR THE PREVENTION OF COMMUNICABLE AND HEREDITARY DISEASES

Presented to the Section on State Medicine at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo , June 7-10, 1898

BY ALBERT H BURR, PH D , M D
ADJUNCT PROFESSOR PRACTICE OF MEDICINE, COLLEGE OF PHYSICIANS AND SURGEONS, ATTENDING PHYSICIAN TO PROVIDENT HOSPITAL CHICAGO

Society as constituted under whatever form of government is more or less incomplete in its organization Evolution, here as elsewhere, is working out the destiny of social affairs New sociologic problems arise with every advance in our commercial relations, our manufacturing interests and our knowledge of the useful arts and sciences Especially is this true as it relates to the causes and prevention of diseases A fundamental principle, recognized by the earliest patriarchial, tribal and feudal forms of society, up to the highest development of representative governments, is the right of the individual to protection against physical harm from his enemies It is only an elaboration of this principle which makes it the business of the State to do for the mass of individuals, for the good of society, what can not be done or so well done by the individuals themselves

In return for this protection and share in the general prosperity of the whole, the individual is called upon to make many personal sacrifices He must "keep off the grass," *pro bono publico*, in many localities as he travels through the experiences of life Although their operations may work hardships at times to particular individuals, nevertheless sanitary, hygienic and quarantine regulations for the protection of the public health are widely acknowledged to be measures of the highest wisdom The public is easily aroused to the dangers of epidemics like cholera, yellow fever and smallpox, and submits to wise regulations for the prevention or stamping out of these fearful scourges The sudden onset, rapid spread and swift destruction to life invest these diseases with a tragic interest that on occasion alarms the public, paralyzes local industry and commerce, and engages public attention often beyond the gravity of the situation No expenditure of means or measures is counted too great on the part of governments in order to protect their subjects from such diseases Happily, the frequency and force of these scourges have been greatly reduced in civilized countries, for they have been almost shorn of their terrors through vaccination, quarantine and hygienic regulations

Alive to these great dangers, as we should be, vigilant for their suppression with the financial, legislative and executive resources of the State, as we are, what is our attitude toward other infectious diseases, whose sources are equally well or better known, and whose methods of contamination are constantly demonstrated on every hand—diseases whose endemic presence is perennial, whose ravages are greater because of their constant, silent and concealed operations? If the epidemics we have just mentioned may slay their hundreds or thousands on occasional outbreaks, the preventable diseases like gonorrhea, syphilis and tuberculosis are slaying annually their hundreds of thousands The State is opposing the ravages of this class of diseases with feeble barriers, or none at all The public is obtuse and indifferent, because their devastations are not matters of sensational newspaper reports and do not come with the tragic effect of sudden onset and swift destruction The masses are ignorant concerning the gravity of these diseases, or any adequate means of limiting or preventing their transmission

Every measure in this direction which is wise in its provisions should have the hearty support of the medical profession Indeed, it is through our profession alone that a knowledge of the extent and ravages of these diseases can be imparted and means for their prevention pointed out In this paper we wish to discuss but one of many prophylactic measures which we believe would prevent much injury and death, and would protect many innocent wives and children who suffer most cruelly from communicable diseases by direct contact or by heredity

We earnestly advocate more stringent laws regulating matrimony We believe the public good demands that every candidate presenting himself or herself for license to marry should be required to file a certificate of health from a legally qualified examining physician, showing freedom from hereditary diseases, like insanity or epilepsy, from all active tubercular infections, and from communicable venereal diseases

All individuals entering the bonds of wedlock have a right to know that their own bodies shall not be contaminated through this relation by reason of already existing disease or taint They have a right to know that their progeny shall not be the victims of hereditary diseases or direct contamination from the same source Every child has the inalienable right to be well-born, at least, if not born a thoroughbred Who can safeguard these rights but the State? In these days of physical degeneracy among the highly civilized nations matrimony is governed more by questions of mere sentiment, finance or expediency than by a consideration of physical, mental or moral fitness If in human breeding we ignore the simplest rules of those who breed physical perfection in horses, cattle, pigs and poultry, it should, at any rate, be obligatory on the part of the State to protect the lives and health of those who are helpless to protect themselves The least it can do is to prevent the diseased from contaminating the healthy and innocent through the license to marry

Legal restrictions placed on our statute books with this end in view would work hardship to no one who has a moral right to marry Such legislation would be of immense benefit as a means of public education concerning the prevalence of these dangerous maladies and the frequency of their distribution to innocent, unsuspecting wives and their helpless babes They would become topics for discussion in every home where a marriage was prospective The public would very soon inquire into the reasons for such legislation It would learn the truths concerning evils which the profession knows full well, but upon which it is powerless to give public instruction, and against which, unaided by law, it is powerless to enforce protective measures

The laity would soon come to know what Noeggerath and Ricord taught many years ago that the majority of all males become gonorrheic usually *before* matrimony, and that a large proportion of these remain in uncured chronic or latent stages for indefinite periods, during which they can impart this dangerous disease to others, that 10 to 30 per cent of all females become gonorrheic usually *after* matrimony, and that the results are usually of much graver importance to women than to men, that gonorrhea is accountable for most of women's pelvic woes, that it is the greatest cause of sterility in both sexes (Keherer), that it is the greatest single cause of blindness—18 5 to 23 5 per cent of all the blind in early life being from this cause alone (Magnus, Fuchs and Lucius Howe), that it often kills and that from this cause alone a license to marry may also prove a death-warrant to a confiding bride The laity would soon come to know that syphilis, of all diseases, is the greatest cause of abortion, that one-third of all syphilitic pregnancies abort or are still-born, that one-third of those born alive die during the first six months (Carpenter and Grassowitz), that the remainder are more or less enfeebled, deformed or short-lived through lowered vital resistance that locomotor ataxia and certain forms of insanity are almost synonymous with so-called tertiary syphilis The laity would soon come to know that the great white plague of consumption is the king of death among all diseases, cutting down from one seventh to one-ninth of the human race, that it is propagated through the marriage of tuberculous individuals, that the progeny of such inherit weak constitutions and a marked tendency to contract the same disease The laity would soon come to know that persons tainted by mental and nervous derangements, like insanity, chronic alcoholism, dipsomania and epilepsy, are very liable to beget a progeny of physical, mental and moral degenerates through a license to marry It would learn that all these classes of diseases thrust upon the State a great burden of caring for the diseased, the defectives and the criminals that largely fill our asylums, poorhouses and jails, that the State has not only the right to protect the immediate interests of the individual, but its own interests also by preventing the marriage of those who might be inimical to private and public welfare

With such widespread knowledge a strong conviction would prevail that the diseased and defectives have no business to marry It would be regarded as a crime for these classes of individals to marry, and the demand would be imperative on the part of the public that effective, discriminating laws regarding license to marry must be enforced for the public good

The vital importance of matrimony to organized society makes it obligatory on the part of the State to impose few barriers to its free exercise "Matrimony is the restraining power which keeps society decent, to say nothing of the higher blessings which flow from it" (Bishop) Again, Ayliffe declares, "As the first cause and reason of matrimony ought to be the design of having offspring, so the second reason ought to be the avoidance of fornication " Manifestly the largest exercise of the institution of marriage—so essential to the highest good of society—should be encouraged between all persons qualified for this duty But it seems to us equally evident that the State is under just as strong obligations to protect its subjects from the dangers of communicable and hereditary diseases on entering marriage, by requiring candidates to pass efficient medical inspection before granting to them the privileges and responsibilities of this important civil relation

So far, restrictions against marriage in the United States have been confined to questions concerning minority, consanguinity and micegenation Attempts have been made to pass bills in some States to regulate the granting of marriage licenses with respect to the prevention of disease None have become statutory law so far as we have been able to learn

Having shown conclusively, as we believe, the urgent need of wise legislation in this matter, the following working model of a bill is submitted by the author, for the drafting of which he is largely indebted to Dr Frank W Reilly, assistant health commissioner of Chicago, whose ripe judgment and experience in securing medical and sanitary legislation, and whose long connection with the Illinois State Board of Health eminently qualifies him to pass upon what may reasonably be expected of legislators in this connection While this bill does not cover all that has been set forth as desirable, it involves the more important considerations, and if attainable will mark an advance which, let us hope, with enlightened public sentiment, may yet reach the higher ideals outlined in this paper

A BILL

FOR AN ACT TO REVISE THE LAW IN RELATION TO MARRIAGE

SECTION 1 —*Be it enacted*, by the of the State of That it shall hereafter be unlawful to issue a license to marry to any applicant for such license who fails to present with his application a certificate, as hereinafter provided, setting forth that the applicant is not the subject of acute or latent gonorrhea, or syphilis in the communicable stages

SEC 2 —The certificate required shall be accepted from any reputable physician who is a member in good standing of the National, State, County, City or other similar recognized medical organization of the school of practice to which he or she belongs, and shall be in form and substance as follows, to wit

State of }
County of }

I M D , a legally qualified physician and member in good standing of the whereof M D (Address) is Secretary do hereby certify that I have examined resident of an intending applicant for license to marry and that my examination made with due skill and thoroughness and during a sufficient period of time fully satisfied my professional judgment that said intending applicant is not the subject of any of the disqualifications for marriage specified in Sec 1 of the Act to revise the law in relation to marriages approved 189 , in force 189

I do, hereby further certify that this certificate is given with a full realization of the sufferings entailed upon wives and offspring by marriages with the subjects of said disqualifications

Witness my hand this day of 189
M D *Address*

SEC 3 —The physician's certificate shall be dealt with in the same manner, as to registry, endorsement and preservation, as is now prescribed for the certificate of marriage

SEC 4 —All acts or parts of acts inconsistent or in conflict, with this act are hereby repealed, and this act shall take effect and be in force from and after its passage

---

ARTIFICIAL RESPIRATION IN RELATION TO STATE MEDICINE

Presented to the Section on State Medicine, at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY EDWARD DAVIES McDANIEL, A M , MD , LL D

MOBILE ALA

The purpose of State medicine is the protection of the life of aggregated man from injury and death This purpose is mainly accomplished by protection from the causes of injury and death by preventing, avoiding or removing such causes and mitigating or curing their effects As the whole must always include all its parts, so aggregated nationalized, communized man must include its every constituent individual, and state medicine in its mission must embrace the warding off from each and every individual the causes that may imperil, impair or destroy the life of that individual Life need not here be defined Its existence is postulated It is equally known that life exists in two states—the *latent* and the *manifest* The latent is a dormant germinal, quasi hybernant state, with a capacity of being developed or aroused under proper influences into the manifest state char acterized by a display of definite aggregated and correlated processes and phenomena These processes and phenomena, once developed, become the characteristic properties of life, the manifestations by and through which alone its existence is known and revealed to us What these processes and manifestations are need not be here mentioned in detail, since they were enumerated in a paper entitled "The Relation of Physiologic Principles to Artificial Respiration," presented to the Section on Physiology and Dietetics, at the meeting in Philadelphia, Pa June 4, 1897, and since published in the Journal In the same paper may be found enumerated the leading conditions of depressed life with their causes and treatment As the leading process of human life after birth is respiration, so the leading measure for restoring life from dangerously interrupted or prolonged depressed conditions is artificial respiration with its appropriate preparations and adjuvants

Connected with the value and importance of artificial respiration to State medicine, a very interesting practical and important question presents itself, viz How long may respiration be interrupted, suppressed or in abeyance and yet a reasonable hope of its restoration still be entertained?

From the most reliable sources of information at command, and covering the period of sixty years are presented the following statements

Tanner, in his "Clinical Medicine," says "Death is said to be the result where breathing is interrupted for any more than *three minutes*"

In a report of a committee of the Royal Humane Society of Great Britain with the very distinguished Sir Benjamin Brodie for chairman, in 1840 it is stated that "It is the opinion of the medical members of the committee, that the period, in cases of asphyxia, when artificial respiration might be successful is *very short and scarcely more than momentary*" In 1744 there was blished, in Edinburg a case of a man apparently dead m suffocation in a coal mine "Mr Topack used flation, mouth to mouth, bled him, caused him to ushed, pulled and rubbed, as much as he could *for out an hour* when he *began* to come to himself" in the *Medical Gazette* (English), quoted by Dr Howard of Baltimore, Md, Mr Terry of Northampton gives "two cases of still-birth in which after nearly two hours he succeeded by breathing into the nostril and alternately compressing the chest" Dr Howard also gives a case of three days' labor, in a primipara, in which a seven months' fetus was expelled *with every sign of life absent* After the application of conjoined methods of artificial respiration for about *twenty minutes*, the child *began* to breathe The cord was then cut and perfect health continued Another case is given—one of a man who fell from a Staten Island steamboat "About *twenty minutes* after the man fell from the bulwark rail into the bay, the boat backed and the man was hauled on deck *with no sign of life remaining* Artificial respiration was commenced and in *about ten minutes* the patient gave a short gasp The treatment was continued and in about *ten minutes more* he breathed naturally and exhibited consciousness" In this case you observe it was *thirty minutes* from the arrest of breathing to the inception of its return as indicated by the short gasp, and *forty minutes* to its full restoration

Dr Hamilton of Falkirk, in the *Monthly Journal of Medicine*, May, 1855, reported the following case, which proves that many infants apparently dead, may be aroused to manifest life by means of artificial respiration long after the time when the effort is ordinarily abandoned

> About ten minutes before 7 P M, Mrs C was delivered of a large male child A knee presented, and to effect delivery considerable force was required Even before one leg had passed from the vagina, meconium was voided very copiously and when the child was born it showed not the slightest trace of movement or of sensibility The usual appliances of rubbing the breast with spirits, plunging the body alternately into cold and warm water, etc, were had recourse to, but apparently without effect As a last resource artificial respiration was employed In a short time a slight pulsation of the heart became perceptible and gradually increased in strength, but this was the only motion that could be observed After having continued the artificial respiration for *an hour and a half*, a slight tremulous motion of the abdomen was noticed, which at first seemed to be merely the effect of the heart's motion propagated downward, but which after *another half hour* was distinctly seen to be produced by very weak and rapid respiratory movements Along with this improvement, the color of the lips, previously somewhat livid, became of a red natural hue In *three hours* the temperature was good, the pulsation of the heart was strong and the respiratory motions extended to the upper part of the chest

In the London *Lancet* of Feb 14, 1846, is an account of a case that occurred to Dr Mackness of Hastings

> On his arrival the doctor was informed that the labor was over and that it had been over *ten or fifteen minutes* He broke the membranes of an entire ovum which he found, tied the cord and gave the child to an attendant, when to his surprise he found another ovum also entire, from which he extracted another infant, Both infants appeared to be still born, but by inflating the lungs dashing cold water over their bodies, wiping them dry and having their skins well rubbed, in *about fifteen or twenty minutes*, both showed signs of animation and on exposure to warmth, cried out lustily In each of these cases an interval of probably *not less than twenty five nor more than thirty five minutes* transpired from the complete expulsion of the fetus to the first show of signs of animation
>
> In Camden, Ala, on Feb 25, 1859, after a copious blood letting practised on a primipara to prevent convulsions that were imminent, a large male fetus was very tediously passed through a relatively small and rigid outlet It was apneic and apparently dead Heart movements were imperceptible, but there was more firmness in the flesh of the fetus than is usually found in that of the dead After trial and failure of Hall's ready method, persistent insufflations mouth to mouth, with warm cerebro spinal bath, cold sprinklings and dry frictions, were finally followed, *after twenty or more minutes*, by spasmodic contraction of the fetal hands and then a sudden gasp Life signs improved gradually and in about an hour from the complete expulsion of the fetus, respiration seemed good, the cord was cut, the child dressed and I, with two other physicians in attendance, withdrew to another room After a few minutes I was hurriedly summoned back with the alarm that the infant had stopped breathing Insufflation was again practised with very tardy but ultimate apparently complete success After again retiring and remaining for some time in the other room, I was called again to the breathless infant Insufflation again succeeded Apnea again occurred More forcible insufflation was applied, and breathing once more returned, but with it there came a straining cough which persisted until a sudden copious rush of blood through the mouth and nose terminated the infant's life, *four hours and twenty minutes* after its expulsion from the mother and only a few seconds after the last insufflation

It is perhaps fair to say that in Great Britain and the United States the most cautious conservative medical men, though once in accord with those who limit the capacity of life in adults to a compass of from two to four minutes after the cessation of breathing, are now converted to a more liberal creed It is known that breathing may be voluntarily "held" for varying times, that practice may extend the time considerably, and that pearl divers and expert divers may safely reach *four minutes* or even *more* Newspaper reports of executions by hanging and physicians legally detailed to witness such executions, agree that the pulse continues to beat for from five to fifteen or more minutes after the rope stops the breathing, the average being about ten minutes

We have not time to dwell at more length on cases, details and results, but feel warranted in stating 1 That the length of time that adults may be apparently breathless and yet susceptible of resuscitation is not definitely fixed--that it doubtless varies greatly in different cases, is greater than it is generally supposed to be—perhaps, in certain cases, much greater 2 That the length of time that a fetus may on its first passage from the mother, remain without visible pulmonary respiration and yet continue susceptible of being saved is very much greater than the corresponding time in the adult, that it is probably greater in the premature fetus than in the fetus of full term and that in the premature fetus, when kept warm, the heart may continue to act *four hours or more*, without any connection with the mother and without visible pulmonary respiration

It must now be plain to all that such life-saving organizations as go far off on the high seas or great lakes, on the great ships and fleets, or watch out for the lighthouses and mist covered shore, are not the ones from which State medicine must expect its greatest good and its greatest gain, but contrarywise, the skilful obstetricians, who cease not by day or by night, in summer or winter, in metropolis or in wilderness, on sea or on land, on the mountains and in the vales, in king's houses or in huts, in calm and in storm, to await the coming of helpless, breathless, speechless ones from the home of a lower life to the danger-beset shores of a higher existence—these are they who must ever furnish to State medicine the greatest and best contributions

How *many* lives may reasonably be expected to be saved to the State by artificial respiration can never be exactly computed, very much must depend upon the safety certainty and efficiency of the method used, upon the seasonableness and skilfulness with which it is used, and upon emergencies that vary with times, places events, enterprises, accidents, etc But a reasonably approximate estimate can be reached when and where conditions approach uniformity Say that Alabama has a population of two millions and has two thousand physicians, and that each physician annually resuscitates by artificial respiration, mainly, only two cases, not spontaneously recoverable, the number saved in the State will reach four thousand, and at a like rate the saving to the seventy five million of the United States would amount to one hundred thousand per year

But in estimating the worth of artificial respiration to the State or to the world the *number* of the lives saved is a far smaller consideration than their *value* This value can not be comprehended It can only be thought of in overpowering amazement The saving of some lives, as those of the insane, the degenerate and the criminal, would be a calamity to the State, but for the warning thus given against the transgression and the occasions furnished for the exhibition and exercise of humanity, of compassion, of beneficence and of justice But others of those saved, and no doubt most of them, are reserved for higher and nobler destinies Moses was saved in a frail ark of bulrushes to become the leader liberator and law giver of his own oppressed race and through them of all civilized races Noah was floated in an ark from a deep flood to a lofty mountain top, to become the ancestor of races destined to repeople an inundated depopulated world Alexander Pope was born a weakly deformed dwarfed infant In tender childhood he received from a vicious cow injuries from which kindly care restored him and still later locked up in a coach that was overturned in a river he was rescued from otherwise inevitable drowning, by the timely aid of a helping hand Through such perils, exposures and sufferings was he spared whose mission it was to translate into English the two greatest epics of Greece and Rome, and otherwise wonderfully to enrich that ever expanding language which many of us now proudly claim as our glorious vernacular Isaac Newton, when born, was small enough to be placed in a quart cup, yet that diminutive body contained the germ of that wonderful genius who discovered, explained and applied to countless uses and purposes the great law of universal gravitation, who invented and largely developed some of the highest departments and best methods of modern mathematics, and who gave the first great impulse and start to the study and knowledge of light—that great agent that ceaselessly sheds and will shed its bright, beautifying, life-exciting influence through infinite space, boundless stretches and infinite duration's endless years

Thus to those snatched from the dark valley of the shadow of death by life-saving measures, and especially to the multitudes of apneic infants recoverable only by the aid of artificial respiration and to the descendants of such, the State, through all coming ages, may reasonably look for many of her greatest, brightest, best and most valuable citizens—her astronomers, navigators, discoverers, inventors educators, patriots, evangelists, prophets, apostles and redeemers

---

THE ADMINISTRATION OF SANITARY LAWS

Presented to the Section on State Medicine at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY WM P MUNN, M D
COMMISSIONER OF HEALTH
DENVER COLO

The complicated relations existing in most municipal governments between the different departments and bureaus seem to make it essential that the health department, bureau or board should have a legal advisor of its own Take for example, a city in which, as in Denver, the boards and officers comprising the various divisions and sub-divisions of the executive force are appointed by different officers, and own no allegiance to a single and responsible head It can readily be seen how it happens, as it often does, that one department seeks to carry out a plan of action, which in some particulars will conflict with the regulations and activities of another department, and there is no ready method of harmonizing and unifying the efforts of the departments For example in most and perhaps in all cities the construction of sanitary sewers or of a waterworks system would devolve upon the officers having charge of public works Having a regard for other essential matters than sanitary features such an officer may go on and construct a sewer system or waterworks in such a manner as to jeopardize the sanitary interests of the community The responsible officer of health may not be apprised of what is in contemplation or he may learn of it in some round about way But unless he is consulted and can give the matter the full attention that it deserves from his point of view, conditions may be brought into existence which he may subsequently find it necessary to remedy but will not have the power to act upon

Under such circumstances a legal adviser who has given especial attention to the right of the sanitary or health board may keep the health officer advised of his opportunities and his duties, and enable him to accomplish much good for the community both before, during and subsequent to the construction of municipal improvements I take it that such a special counsel would advise the health officer when he can effectually make his objection and formulate his protest against "public improvement" measures that are unsanitary But in instances where one counsel acts for all city officers, the city attorney is much more likely to look at matters simply from the standpoint of the board that desires to hasten work along and will so frame their advertisements, phrase their stipulations and arrange their contracts that objections made from a sanitary standpoint will not be properly presented, or when considered will not be agreed to

Let us consider, for example, a proposed system of water-supply for a city An intelligent head of a public works department would be largely guided by the results of thorough investigations of health officers in determining whether a certain source was, or was not, free from objection But an unintelligent works official would probably have, under the laws of most cities, a right to proceed without consulting his health officer, and in no instance do I know of any city where the works department is required by law to comply with the recommendations of the health officer upon this important subject

A majority of cities are sewered by the combined system, and communities must wait until their growth has reached such a point as to enable them to incur the expense of a combined storm and sanitary sewer system before ordinary sanitary drainage can be provided for This fact accounts for the long existence of the privy pit and cesspool nuisance in cities The intelligent health officer, backed or assisted by an attorney who is retained by the sanitary officer alone, will be enabled to have separate sanitary sewer systems constructed early in the growth of a city Thus the sanitary sewer will be laid before a district is closely built up and before many privies or cesspools have been constructed New residences going up in the completed sewer district can then be required to at once connect with the sewer, and the soil of the city will never be given an opportunity to become saturated with filth and disease-producing materials This is simply a preliminary point, however The relation of the sanitary administration to the administration or alleged administration of justice in any community, is a matter of vital import to the earnest health officer

Prior to bringing any case in court it is the business of the health office to exhaust every effort to persuade the offending citizen to comply with the regulations It is an old saying that more flies can be caught by sugar than by vinegar Apply the principle of that wise saw to the enforcement of sanitary regulations One person can be influenced by an appeal to his reason, another by an appeal to his pride, either in his own property or in the general neighborhood in which he lives, others are led to comply with orders by showing them how much more desirable their property can be made from a financial or earning standpoint, others can be cajoled into doing a thing in a certain time which they absolutely refuse to do at the immediate date of the order But when these classes are exhausted there remain two others that must eventually be brought into court. There is the man who thinks he can always beg off and that you will never carry out the threat of court procedures, and there is the man who is a born fighter and will not yield until he has gone through all the courts Men of the first sub-class usually come into court when summoned and promise to proceed immediately if no penalty is imposed It may be well to allow them to go without a fine, but in every instance they should be made to pay the costs Then if the court is a fairly intelligent friend of sanitary measures he should be asked to warn the offender that the next failure to comply with orders will be punished by a full fine This promise, if made, should be kept

In dealing with the class which includes the persistent and obstinate fighter, it is well for the health officer to exhaust every peaceful method before going into court When it is finally determined that prosecution is necessary it is wise to have the preparations made therefor with the greatest care and under the direct instructions of the attorney who will prosecute the case First, second and third notices should be carefully drawn up in accord with the strictest technical requirements of the law, the exact manner of enactment of the regulation or ordinance should be looked up so as to assure yourself that it has been lawfully adopted, it should be possible to produce the original act, ordinance or regulation in court if a demand is made for its exhibition, copies of the notices as served should be substantiated by more than one witness, the ownership or control of the property in question should be fully established and not taken upon hearsay, the case should, if possible, not rest solely upon the testimony of employes of the sanitary service, but other citizens should be called to substantiate their evidence, a nuisance should be proven by citizens and by a recital of conditions which will satisfy the court, not by the simple statement or order that "such a thing or condition is a nuisance" It has been my experience that judges of minor courts are more ready to accept common-sense definitions, and to brush aside mere technical objections, than are the judges of superior courts It has also been my experience that it is easier to win a case before a jury in a district or common pleas court than it is to win before a judge In common with many other officers, it has been my lot to lose important cases as well as to win them A recital of some causes of failure may be of service to others, as the cases themselves have been to me, in pointing out certain defects of procedure that result in the loss of a case

In a prosecution for the sale of watered milk, in one instance, the proof of sale of any portion of the milk was carelessly overlooked, its possession, its carriage and its delivery were proven, but not its sale The case was dismissed for lack of proof, although the guilt of the accused was morally certain both to the judge and myself In a prosecution for maintaining a nuisance in the shape of a privy vault in a completed-sewer district, action was brought by an attorney unfamiliar with the ordinances under one section which prohibited such vaults in completed-sewer districts as nuisances, but the substantial proof that the particular vault was a nuisance was not presented and the case was therefore dismissed In a prosecution for selling impure ice the party was convicted in the police magistrate's court From this decision and fine he appealed to the county court, where he was again convicted by a jury In order to hasten matters and avoid long drawn-out litigation an order was then issued, after a hearing, that the complained-of ice would be destroyed if brought into the city for sale Upon this the culprit managed to have three judges of different courts intervene with orders and injunctions preventing not only the destruction of the ice, but further prosecutions under the ordinance which had secured his previous convictions These orders were based upon perjured statements of the attorney that no hearing had been given, inasmuch as the previous hearings were not of record, the falsehood could not be disproved, the uninformed judges of appeals made a ridiculous decision to the effect that "a health commissioner had no right to issue an order to destroy property " All of which may be good law but is bad reasoning from the standpoint of a common-sense sanitarian Judges are not well informed upon matters relating to sanitation which come before them for decision Worse than this is the fact that from the peculiar bent of mind acquired by long legal training, they seem to have reached a point where they hold that no other consideration is of quite so much importance as the preservation of alleged property rights, even when such alleged rights violate the inherent right of the people to live out their individual lives It is my firm impression that sanitary laws can never be properly enforced until a more rigorous method of putting intelligent and conscientious men upon the bench can be devised

---

MELANCHOLIA

Presented to the Section on Neurology and Medical Jurisprudence at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY FRANK PARSONS NORBURY M D
Lecturer on Psycho Physics Illinois College Neurologist to Our Savior s Hospital Physician to Oak Lawn Retreat
JACKSONVILLE ILL

The physiologic doctrine of the physical basis of mind is now established beyond dispute, although some of the ardent philosophers of the Platonic school still regard mind as an entity, and view it and consider it apart from its habitat—the brain

This change in physiologic views has been brought about by the advent of physical methods of inquiry, which, under the name of the new psychology, promises to give us a substantial and real basis from which we may proceed in our excursion into the labyrinths of reason The bearings of psycho-physics upon the study of mind, together with the empiric observations of the past ages, demonstrate that physiologic laws underlie mental phenomena—that mind reposes upon a nervous property sustained, like every other physical power, by nutrition It shows, further, that the plasticity of the mind may be impaired in its full functioning by innutrition or malnutrition as well as from undue exercise or its reverse—inaction Again we have learned that mind, physiologically considered, is dependent upon bodily conditions for its full powers Bain, in his excellent work on "Education as a Science," in 1878, expressed this one physiologic circumstance in particular in the following words "The human body is a great aggregate of organs or interests—digestion, respiration, muscles, senses, brain When fatigue overtakes it, the organs generally suffer when renovation has set in, the organs are generally invigorated This is the first and most obvious consequence, and therefore, in order to increase the plastic property of the mind you must nourish the body "

We who have studied the phenomena of the mind from the standpoint of disease will recognize the physical basis of mind, and to us mind is the consequence of a long line of new nervous growths—the morphologic development of the senses, the intellect, the emotions and the will The nervous system is the instrument of the mind—this is the belief which the new psychology has demonstrated to be true Herbert Spencer, before the advent of the new psycho physics, said, "The evidence, though so indirect, is so extensive, so varied and so congruous, that we may accept the conclusion without hesitation " Now, the phenomena of the nervous system, viz , its mechanism, functions and condition of action, etc , are purely physical phenomena, controlled by physical or physiologic laws, just the same as are the processes of digestion, circulation, etc Mind, too, is controlled by physical laws, for while we can not demonstrate the substance of mind, in fact, as Weir Mitchell expresses it "Indeed, we are as yet uncertain as to where within the skull is the nerve matter with which we think or imagine " ("Clinical Lessons in Nerve Disease ") However, it is to be presumed that mind is identical with other evidences of nervous phenomena, as it is closely associated with nervous change

In my classes, I have taught that mind is made up of an association of feelings—a confederation of units of feelings This is in line with the teachings of pathology, as our science of cerebral localization demonstrates Again, it is in keeping with the teachings of the cellular pathology of Virchow, and with the modern concept of the neuron theory

In the clinical study of mind it has long been recognized that proper nutrition of the brain is the prime essential of recovery Especially is this true in melancholia, which, viewed in the light of modern neuropathology, in my judgment, gives us a physical basis from which to consider this disease as a nutritive disorder, of which the mental symptoms play the title rôle, while the accompanying physical symptoms are none the less important, though more or less obscured by the greater conspicuity of disordered mind The mental phenomena should not be regarded as the disease, any more than the sugar in the urine should be considered as the disease, diabetes Even the transitory or periodical forms of melancholia, some of which are spoken of by Weir Mitchell, I believe, are the results of innutrition and when we know more of neuron metabolism we will have their physical basis known

Barker of Johns Hopkins has contributed a most excellent series of papers in the study of the neuron (*New York Medical Journal*), and in a recent paper says, in regard to the laws underlying neuron metabolism that they are just as fixed and constant as are those of astronomy and botany, and he can conceive of a knowledge of their nature and action which would enable one possessed of it to [illegible] ight of the functional manifestati[illegible] made of a given set of [illegible] upon exposure to a given environment Further, he says "The neurologist has already learned that in the nervous system certain causes produce certain definite effects, almost with mathematical accuracy and this fact should encourage him to further research with the hope that the intricate laws in question may gradually be rendered less obscure and vague "

Defective metabolism, then, is the foundation of melancholia, and this is further borne out by operation of the impoverished body, the attenuated action of the nerve currents, the defective blood, and other evidences showing a diminished, weakened, impaired bodily nutrition The mental alteration is but the result of lowered nutrition of the brain, as the phenomena of conduct, of intellect, of will and of consciousness itself, one and all are dependent upon a high degree of activity in the nerve elements The adjustment of mind to the material body lies then along the lines of bodily nutrition Of course, we must consider the hereditary factor, where, because of minute conditions, the natural energy of the mental organization is limited, or is so unstable as to be affected, then because of the lack of nerve or background to counterbalance extraordinary demands on the available energy, we find early exhaustion and consequential mental anarchy The nerve elements in such a case are essentially weakly-developed or badly nourished, either of which conditions disturbs the organized associations of centers and permits of speedy exhaustion, and loss of power over thought, feeling, conduct and consciousness The natural motor restraints or inhibitions are impaired or abolished Thought-circuits are disturbed, broken or so seemingly locked, that in spite of all efforts the patient can not rid himself of the morbid gloom, which such self-centered, grossly exaggerated thought engenders The true self fights invading insane self and finally gives up the struggle as vain, and soon is swayed by his delusions and imaginings, will is disintegrated and the other ordinary higher psychical impulses encompassed by the darkening and impervious gloom

To me this picture is one painted by distorted nutrition more or less aggravated by the inherent factor in the case Clinically, melancholia is more than Ziehen (*Am Jour of Insanity*) states in his trio of etilogic factors, viz hereditary taint, stress and mental shock, for malnutrition is decidedly a primary factor more or less prominent in every case, and should be added to make an etologic quartet

While it is true that we meet cases of simple melancholia without much physical disorder, yet I regard physical disease as playing more than a subordinate part in the causation of melancholia And that this physical disease acts, not by virtue of combined emotions of worry, fear, etc, growing out of the disease, as Ziehen would have us believe, but by reason of malnutrition growing out of the physical disease Herter, in his recent studies of auto intoxication, has given us the clue to much of this distress This I know from personal clinical experience, is the cause of mental disease Take, for example, the cases having diabetes, gout, lithemia or the convalescence from infectious fevers for a background, and we have striking examples of the physical elements in causation

It has fallen to my lot to meet a number of cases, in consultation, of alleged insanity who were victims simply of the uric acid diathesis, exaggerated to the point of interference with normal metabolism A case whom I recently saw was sent me for observation and diagnosis Careful inquiry and detailed laboratory investigation demonstrated it to be one of lithemia By observing Haig's dictum, "control the uric acid and you control the mental disease," I sent him home in two weeks, able to resume his work You all meet with such cases, and I dare say you rejoice in the fact that you are able to speedily return them to their fields of usefulness

In diabetes there is a psychic element which grows out of the nutritive disorder The actual psychosis is one of melancholia and hypochondriasis I have had but four such cases in my practice in the last ten years Van Noorden (Twentieth Century Practice, Vol ii), remarks in addition to the fact that melancholia may be present in diabetics, that it may be noticed in all grades of severity, from an almost imperceptible degree of hebetude to the most pronounced form of disorder—suicidal and homicidal melancholy aspects being not infrequent

I will not enlarge upon those nutritive diseases as being factors, as time will not prevent However, in closing I wish to add that arteriosclerosis is perhaps one of the most frequent factors in the causation of melancholia in patients past the age of 35 years Again we may meet cases in active business men whose minds are clear and strong, but who are given to dejection, to melancholy and even to acute melancholia Their disposition shows a tendency to change, and they are easily moved by their emotions To all external appearances they are well physically, and it is difficult to detect any grave disturbance of nutrition, and yet if such a case should die, say from intercurrent disease, postmortem examination would reveal arteriosclerosis, especially involving the central arteries and perhaps the basilar artery (It is a fact that the arteries which are exposed to the greatest strain are first affected by the organic change, arteriosclerosis)

I have met many such cases, and now have under my care a case given to periodic attacks of melancholia marked by delusions, etc, who is a victim to arteriosclerosis involving the kidney and heart as well as the brain The very nature of arteriosclerosis is such that it induces wide spread disturbances of nutrition, and while the brain, the kidney or the heart may show the first evidences of disturbed nutrition, it is very probable that ere long the disturbance will be general rather than local As Meigs says, "Perhaps no one thing is more important for the diagnostician to know than that vascular disease and fibrosis are certain to come in all men if they live to be old enough."

In conclusion then, let me say that

1 Mind has a physical basis
2 The brain is the organ of the mind
3 The activity of the brain is dependent upon its nutrition
4 When badly nourished, either from poor blood or illy distributed blood, mental depression and melancholia result
5 Melancholia is a nutritive disorder, characterized by mental symptoms of depression, dejection delusions, etc, and the physical symptoms of impaired bodily nutrition, which latter symptoms are as essential evidences of disease as the mental irregularities

DISCUSSION

Dr Meyer of New York—The paper suggests to me a few remarks similar to those that I made yesterday with regard to the paper of Dr Punton The general impression is natural that we are dealing in melancholia with an entity, just as we have the entity of neurasthenia, with which everybody is familiar Now, on observation of a large number of admis sions (we have had about eight hundred admissions), and from careful examinations during the last eighteen or twenty months, we found a great number of cases which undoubtedly would have, according to the old classification, gone into the group of melancholia, that is to say, in those classifications which are made at the end of the year for purpose of statistics In our attempts to make a diagnosis the first week or the second week after the admission of the patient, it was naturally our purpose to make a diagnosis which would mean something as to the future of the case, and not simply a general term according as the patient was depressed or not It was a question as to what possible classes that patient, whom we were at first sight inclined to call a case of melancholia, would belong While I admit that melancholia is an entity that everyone knows, I myself could not be satisfied with that It seemed that for our present research it was our absolute duty to try and find out whether, from the appearances and from the symptomatology in the onset and in the first weeks of the disease, we could not make a conclusion as to what form of melancholia we were dealing with and as to what we could expect in the later course of the disease This line of thought was opened by Goldvon, over thirty years ago, his books have been too difficult to find, it seems, and have been buried under the inclination of the alienist to examine spinal cords and brains and degenerations, instead of attending to psychiatry The movement has been taken up again by Krebling, and it now seems fairly certain to me that we have a problem before us about as follows It seems from the observation of a large number of cases of melancholia, of what everybody would call melancholia, that we are dealing with quite a number of different disease processes One might instance that disease process which is so difficult to distinguish from neurasthenia and which was yesterday spoken of as having hardly no distinction from neurasthenia Then melancholia which occurs in the twenties and thirties, and is coming on rarer at intervals during life, perhaps five, six, eight, ten, twenty times, always in individuals with strong hereditary dispositions, and rather distinguished by the fact that the inhibition, which is called one of the cardinal symptoms of melancholia by the German surgeons, is not present there Then we have melancholias which are undoubtedly general paralyses Then there are melancholias which belong to the circular insanities, which change into mania, and can be distinguished by the absence of inhibition The other view, of course, the nutrition view, is a general question, and while it is of great importance in the treatment of the disease, has relatively little to do with this subject

Dr **Lichty**, Union Springs, N Y —A year ago I came to this Section in Philadelphia, and there seemed to be a strong inclination on the part of the members of the Section to refer these cases of melancholia, neurasthenia and hysteria to faults in nutrition, and I went back from that meeting and thought that I would make certain observations from these cases in reference to that, especially in line with the investigations which Haig has made I must say that I was rather disappointed I was unable to verify the assertions which Haig has made, as to the examination of the urine and the relation of uric acid to these cases But one thing has forced itself upon me, and that is that in most of these cases we do find a change in nutrition It may be that the changes which I found have been rarer because I see the patients earlier The institution in which I am working does not take any insane cases, but we do take melancholiacs, and I was impressed with the fact that we find a thick blood—a blood with hemoglobin of 100, 105 110, and 6,000 000 corpuscles, and also a heavy urine of a high specific gravity This may be due to the fact that these people were traveling for long distances before reaching the institution, but I have had them drink the same amount of water as they did before they came and the urine remained of high specific gravity In the stomach contents I would usually find a hyperacidity Putting these things together, it seems to me that in melancholia especially, and also in hysteria and neurasthenia, there is faulty elimination The patient has been inactive, he has not been eating properly, he has not been drinking sufficient water, and acting upon this principle, giving the patient employment, putting him out in the open air, having him eat less and food which is more easily assimilated (probably he really takes more food by taking the diet which I give him than the diet which he has heretofore been taking), and by having him take large amounts of plain water I have succeeded in obtaining good results in these cases I think the paper which was read is in line with what I have found in my experience

Dr **John Punton**—I think the subject of melancholia is one that we can well afford to study carefully, and while the disease has been recognized ever since the days of Hippocrates, yet it does seem that there is a great deal for us to learn in regard to this very common form of insanity I believe that most forms of insanity are preceded by mental depression hence, it is certainly the most common of all the varieties of insanity In addition to that, I believe that it is only curable in its earlier stages I believe that the cases of melancholia which are out-and out cures come under observation soon after the onset of the disease

The first step in successful treatment is isolation from home The insane asylum is not the best place for incipient cases of melancholia The environment of an insane asylum is against the recovery of ordinary cases of melancholia in my judgment The State should provide for detention hospitals—half way hospitals between the patient's home and the insane asylum Today the moment we find a melancholiac in ordinary practice, recognizing that we may have at any time suicidal impulse, and recognizing the fact that the patient is irresponsible, we are compelled to send him to the insane asylum Usually he remains and becomes an incurable case If we had a detention hospital that patient could be given the benefit of the doubt, for say from one to six months, and you would be giving your patient a chance of recovery

Dr **Riggs** of St Paul, Minn —I consider the discussion of melancholia most important Melancholia sine delirio is one important form of melancholia that in my judgment should receive especial attention at the hands of the alienist and neurologist I am firmly of the opinion that melancholia, as all forms of insanity, starts as a perversion of the functional nutrition of the cell I think that is the starting point of the insane condition Usually the light form of melancholia is more dangerous, as far as suicidal impulse is concerned, than any other My experience, however, has been entirely different from that of Dr Punton These cases almost invariably get well If they do not kill themselves before they have an opportunity to get well, they recover I can not feel as Dr Punton does in reference to our insane asylums The gentlemen whom I have the honor to be acquainted with and work with along the line of psychiatry are thoroughly alive to these classes of cases, the kind of treatment, their proper care in the institution, their environment, and everything of the kind Of course, if it is possible to prevent cases of this character from going to a State institution, because of the false idea that stigma rests upon one therefrom, it is better to do so, but that false feeling should pass away Insanity is nothing more than typhoid fever, it is simply an expression of a physical state

Dr W J **Herdman**—Like all nervous diseases which we have been dealing with in their chronic form, with their fixed and irrevocable conditions, the tendency is now to get back to the incipient stages, if we are to make any progress at all in the arresting of this class of disease, we must learn more concerning the incipient changes which take place That is the line of research in all directions at the present time with reference to the insanities As has been said by Dr Riggs, very truly, it is a perverted nutrition at the outstart, and I have in my mind now three cases of my own in which that perverted nutrition was apparently due to reflex causes You all heard yesterday a report of an acute case of melancholia, the picture being typic There were disorders of the pelvic organs, and these being corrected the case immediately made a satisfactory recovery My first experience with a case of melancholia of a typic character was in a young woman of 19 years of age In making that general observation or investigation of the system which has been my custom always with patients, I discovered that she had an imperfect hymen, and that she never had menstruated to outward appearance Her mother knew that there was something wrong, but no investigation had been made by the attending physician I found that there was a tumor resulting from the retained discharge, and it had largely dilated the uterus I of course immediately advised that the contents of the uterine canal be removed, and that was done, gradually of course, and she made a complete and perfect recovery, although up to that time she had had a strong tendency to suicide for three or four months, and they had had to restrain her for some time from casting herself out of the window She was in a pronounced state of acute typic melancholia, and as far as we could discover that was the only physical cause there was present there, and when that was removed she made a very satisfactory recovery, remaining well ever since She is now the mother of a family, and has been a perfectly well woman ever since that time

The other case which I have in mind, due to pelvic irritation, was one in which retreflexion of the ute apparent cause The woman had borne several became acutely melancholy, and it was necessary to an asylum She became somewhat better, b r toms of melancholia persisted Allison's formed upon her, after careful investigatic n all respects, and that having been found to be an apparently serious element in her disease, and she recovered, and has remained well ever since These are the most pronounced in their apparently reflex cause, but I have several cases which seemed to point in that direction These disorders, of course, produce reflex disturbance, this reflex disturbance produces a change of metabolism of some sort Before we can get at these incipient causes of the disorder we must know more physiology, we must know what these reflex disorders produce in the way of change, metabolic disturbance We must know what are either the produced poisons or the interferences with excretion which put the system in a state of disordered metabolism and bring about these mental changes, and until we make progress in that direction I think there is very little to be expected from the investigations upon the chronic states, which, as Dr Meyer has well pointed out, may take a variety of courses, depending very largely upon the individual characteristics, upon the peculiarity of physical organisms

I wish to say one word in favor of what has been suggested by Dr Punton in regard to a detention hospital It has been for years in my mind a necesssty It has been our experience, in Michigan at any rate, that we have in connection with our insane hospital staff men who have very little experience in general practice, men who have grown up, as it were, in asylum work, men who have not had an opportunity, for instance, to deal with questions of ophthalmology, of gynecology, of general surgery Their range of experience has not been sufficiently wide to thoroughly canvass a case of this sort in its incipient stages It seems to me a detention hospital, where these cases could be taken and dealt with in every aspect of the case, would be very helpful and would result in a great many more of them being saved from chronic melancholia or insanity

Dr **Tomlinson** of Missouri—I would like first to enter a protest against calling every depressed individual a case of melancholia My understanding of melancholia is that it is an entity, the principal characteristic of which is that there is no mental reduction, in other words, that the intellectual capacity of the individual is retained, and that if that is not present it is not a case of melancholia A man may be depressed because he is demented, but it seems to me absurd to call everyone who is depressed a case of melancholia I am very sorry to see what I might call the syllogistic methods of our clinical friends enter into the discussion of the treatment of insanity, that is, that so and so found such and such a state, and that a given result was produced, ergo, that the result was caused by that condition I do not think it is scientific, and I do not think it proves anything I think a detention hospital is all right, but it is still a hospital for the insane, and if it were once established, to make it competent to perform its work it would have to have all the surroundings, all the accessories and all the facilities which characterized a hospital for the insane, and then what would it be but a hospital for the insane? If it were a State institution everyone would insist that their insane should be sent to that detention hospital and be kept there as long as possible

Dr **Woodson**—I think that all alienists are agreed that taking into consideration the cases of melancholia that come under their treatment, that form of insanity greatly exceeds all others Again, I think that all alienists will agree that a very large percentage of the ordinary cases of melancholia end in recovery, and there is nothing more beneficial than the improvement of the patient's general health When you get your cases of melancholia to partake freely of milk and medicine, and take exercise in the open air and sunshine, especially so if they are inclined to take on flesh, they almost invariably recover In giving advice to the friends of the patient when he is being taken from the institution, the invariable advice is, "Do not permit the patient to run down or decline in health " So far as detention hospitals are concerned, I have this to say If it is reasonable to presume that a detention hospital will be better equipped or provided with better physicians or men more experienced in gynecology, insanity, general medicine, then there is no reason why it should not be nearly as good as the general institution But is it not possible to treat melancholia in a general hospital In regard to the discussion yesterday, some gentleman said that no gynecologists are in favor of performing an operation to restore the insane mind, unless there is a pathologic condition demanding the operation So far so good I say if there is a woman who has a pathologic condition which demands an operation, or would demand it in health, it should be performed for the purpose of restoring that part if possible, and if perchance it does further and better the condition of the mind, so much the better No neurologist is justified in saying to a gynecologist that by removing the appendages of the uterine organs it will cure the mind, because he does not know that it will In an experience of eight or ten years I can report twice as many cases of insanity that are attributed to operations from the hands of our distinguished brothers—more cases than they reported as having been restored! They said nothing about the number of cases that had become insane from the operations, but they herald to us the cases that they have restored

Dr **Searcy** of Alabama—Possibly as good a definition as we can make of that condition of consciousness which we call "melancholia" may be that it is a general sense of disability or inability on the part of the person in his capacity to adjust himself according to what he wishes to do But there is in melancholia, more or less, an ability to reason It is not a demented state There is an ability on the part of the patient to think, and his melancholic condition is one of a sense of disability What brings that about is largely a natural tendency in the person to take that way to think, it is a hereditary tendency to depression of spirit and of feeling A large part of our neurology is cerebrology, a large part of neurasthenia is cerebrasthenia, and a great part of the work of neurologists is that which relates to the conscious organ, the brain The other day I was in the Medical Section when the subject of consumption came up, and yesterday every one was willing to talk about headaches, and today when we speak about melancholia, we find that every one is ready to talk about melancholia, because all those subjects are frequent fields of thought In those conditions of the system that produce cerebropathic states possibly nothing tends so much to bring about melancholic states as toxic conditions that arise from the alimentary canal The melancholic patients, as soon as you can get an aseptic state of his digestive apparatus, will generally improve, and as soon as you can put his system in such a state that he is relieved of toxins, whether they come from the pelvic organs or anywhere else, this will tend to relieve his melancholia In general practice the largest part of our medication is in the direction of rendering the digestive tubes aseptic

Dr **Charles H Hughes**—The chair would like to express his extreme surprise that Dr Punton should make the statement that the environment of an insane asylum is against the recovery of ordinary acute melancholia This, in my judgment and observation, is not true The best influence that you can bring to bear upon an insane man is a change of environment, and if the insane man is in such a condition as to receive any sort of impression from his environments an insane asylum is the best of all kinds with its illustrations, its object lessons of insanity, its object lessons of melancholia in other persons, its methods of diversion and means of rest, and its removal from home All this affords the best opportunity for the cure of melancholia I have seen far more melancholiacs recover in insane asylums than ever recovered out of them, I have seen a larger percentage of melancholia recover inside of an asylum than of any other form of mental aberration, except acute mania, and I think great injustice is done to the value of insane asylums by a statement of that character These attacks that are made upon medical men when they get into an asylum are strangely inconsistent to me A medical man is just as good a medical man after he goes into a lunatic asylum, unless he goes there as a patient, as he was before He generally has a wider field of observation, and some of the most discerning diagnosticians I have ever encountered were those who had learned to diagnose the insane who hindered and retarded, instead of helping your diagnosis The cure of melancholia consists of diversion, of recuperation, and also of rest It is the changed environment that effects the average cure of the melancholiac As has been stated, if you can save a melancholiac from killing himself you can almost always cure him

Dr **Norbury**—I admit that melancholy is a symptom just as fever is I believe, however, taking it on the whole, we have a recognized disease of melancholia, without going through the progressive dejection of which the text books speak and which Dr Tomlinson mentioned You may have a case of profound melancholia following uric acid poisoning, with classic symptoms The gentleman from New York State speaks of his so called failure with the Haig cases I would say that these cases are cases of short duration, and do not get into insane hospitals I have in mind two cases which I have seen in the past three months, one case went home just before I came to Colorado, one in a general hospital—not in the insane hospital—following the uric acid condition By cleaning up the uric acid, you relieved the melancholia and even the delusions, which, in this case, were not profound The man was not in the hospital more than three weeks, I do not say that he had recovered, but the mental symptoms had cleared up Another case of renal calculi presented the ordinary classic symptoms of renal calculi, suppressed urine, intense pain, etc There was a period of dejection with marked suicidal delusions With the discharge of the calculi the patient has improved What we need in the consideration of melancholia is more attention to the internal medicine aspect of the case, we need more attention to the diagnosis, more attention to the study of the case from the basis of internal medicine

---

HOW TO LIMIT THE OVER-PRODUCTION OF DEFECTIVES AND CRIMINALS

Presented to the Section on State Medicine, at the Forty ninth Annual Meeting of the American Medical Association
held at Denver, Colo , June 7-10 1898

BY J H McCASSY, M A , M D
FORMER SUPT OF KANSAS STATE INSANE ASYLUM AT TOPEKA
DAYTON OHIO

Upon the solution of this problem hangs the fate of home, nation, and civilization It is the concern of all good citizens to do something to improve posterity During the past ten years the population of the United States has increased 25 per cent , but during the same period crime increased 60 per cent The cost to the public for the care of defectives and for the prosecution and support of criminals is enormous, to say nothing about the destruction of life and property, confidence and morality We go on building asylums, hospitals, reformatories and prisons, and we keep them full Imbecility, idiocy, insanity, epilepsy, deafness, blindness, incorrigibility, youthful waywardness, adolescent vice, immorality, and adult criminality multiply apace in the land It is high time to improve the method of preventing over-production of defectives and criminals We are too prone to assail results or salve over the surface of our social sore, leaving the roots untouched No one can afford to ignore this subject It concerns every taxpayer, and every one who makes his own living is a taxpayer, whether he owns real estate or not The problem consists of prevention, reformation and extinction The basic causes of crime must be attacked

The ancient uncivilized nations knocked their old men and old women in the head, strangled the superfluous babes between thumb and finger or left them to perish upon the mountain side, and threw their defectives into the water or fed them on the juice of the poppy as a less brutal means of effecting their exit from this world Criminals among inferior peoples are comparatively fewer and are not dealt with tenderly A dose of tomahawk ends their career They are little or no tax upon the public, and they are very little in evidence The lower stratum of development in savagery and barbarism produces comparatively fewer defectives than do the enlightened and educated strata While the highest types of individual and national growth, power, education and excellence are attained in our modern social development, nevertheless, the wayside is strewn with failures, although defectives and criminals are largely bred from the same classes, a great many recruits come from families of high standing It is not necessary to scan very far along even good family lines until you come to a stray sheep, and often a black one at that A defective and a genius may be found in the same family

The Roman and the Greek laws did not bother much with moral improvement The best test of modern civilization is shown by the way the defectives are treated Society admits that the criminal has some rights which it is bound to respect, and not the least of these is the right to reform The defectives must be cared for in the most humane and conservative manner Barbarism and brutality are not economical for up-to date nations

PSYCHOLOGY OF CRIME

Although criminal offenses appear to be spontaneous and impulsive, yet if they could be traced they would be found to be due to a variety of causes Modern science teaches that nothing *happens* Everything that comes to us is pushed from behind In society, as organized at present, there are constantly at work forces which germinate crime and disorder Seven thousand murders take place annually in the United States Ninety per cent of the reading matter upon which the community feeds tends to disintegrate character and bring disorder and abnormity into prominence Our daily and weekly papers are devoted largely to illustrating crime and immorality The sediment left after the reading of murders, suicides, thefts, and immoralities, poisons the youthful minds and leaves indelible scars upon their tender souls All pictures thrown upon the mental canvas modify their recipient accordingly as they are good or evil Persons are swayed by the character of the pictures before which they linger The scientific way to destroy evil is not to hold up and analyze it in order to make it hateful, but rather to let it pass out of consciousness If we hope for improvement in the generation unborn we must dull the appetite for " blood and-thunder " fiction It is useless to ask the publishers to abandon a paying business By a crusade of education against vice, we must lift the minds of our generation above the present demand for sensational reading matter

All education, physical, mental or moral, is primarily a cultivation of powers of resistance Cares, anxieties, business and social difficulties prey upon the mind, and if they are not repelled insanity is the result Depraved natural appetites, if unrestricted, result in crime We guard against physical disease by building up the tissues and selecting healthful environment We guard against mental disease by educating the mind and avoiding pursuits that bring excessive intellectual strain and dissipation We may guard against crime by educating the higher ethical sense and by removing the temptations to wrong-doing Certain mental equipments are suitable for certain occupations When a person selects proper pursuits in life success and happiness will likely follow, but a wrong selection brings misery and crime There came to my notice a case which illustrates one phase of this subject Two brothers, many of whose relatives had gone insane, started to study medicine The strain on both to keep up with the class was great When they were nearing the end of the second term, one of them went hopelessly insane The other studied the literature of his case and when he found inherited insanity in his family history he concluded to abandon further study of medicine He went to farming and made a great success in raising cattle and hogs He said that the nearer he got to the simple ways of living the better he felt He became a good and prosperous farmer

The criminal differs from the normal being in the fact that he has less power of resisting crime We all have the criminal tendency more or less, but it is suppressed by cultivating higher instincts If the child of the criminal is allowed to grow up under the tutorage of crime he will be a criminal If the same child is brought up in a good family, the results will be better It will not, however, do to depend too much on environment Favorable environment will overcome inbred propensities to a certain extent, but in many cases, where there is too much to overcome the over mastering criminal propensities will land the unfortunate victim outside of the pale of good organized society In this fact lies the great responsibility of childless families in procuring recruits from the Orphans' Home Years of unremitting toil and loving care may be reduced to naught by the explosion of their inheritance of vice Take, for example, Bessie Little of Dayton, Ohio, who was taken from the Orphans' Home and reared in a good family She got along very well until she reached full maturity Then her born erratic tendencies and insatiable egotism took possession of her She loved Franz, her slayer, in his presence and hated him in his absence, because her judgment was dethroned by her passions In this case the best of environment was inadequate to overcome her inheritance of vice, she broke down and became a criminal

Heredity is nearly everything "Blood will tell," and blood does tell A born idiot can never be more than an idiot, but these form only a very small percentage of the defectives Of all the streams of evil that flow into the national blood none is more virulent than that of imbecility It is the legitimate offspring of the jail, the infirmary and the insane asylum What a remarkable lesson there is in the case of Max Jukes of New York State He was a Dutch settler, born about 1740, a hunter and fisherman He was a great drunkard, and the progenitor of 1200 persons, nearly all criminals, vagabonds, paupers and prostitutes In seventy-five years the descendants of Jukes committed 115 criminal offenses Not more than 20 of them were skilled workmen, and ten of these learned a trade in prison This family cost the State of New York one million dollars Crime, imbecility and insanity are due in 60 to 75 per cent of cases to heredity We do not expect to entirely eliminate bad blood from the race, but that we can greatly lessen it is both possible and probable

Insanity is much more prevalent among the Quakers or Friends than any other religious sect, perhaps, because of their sadness and gloom in religious worship Insanity is less prevalent among the colored people than any other race, because of their simple wants and happy disposition The general causes of insanity are heredity, 50 to 60 per cent , whisky, 12 per cent , religious perversion, 10 per cent disappointment in love, 10 per cent Eighty per cent of drunkenness is due to heredity, alcohol causes 33 per cent of the diseases, 75 per cent of the crimes, and 50 per cent of the poverty that afflicts our race Intemperance of parents causes 34 per cent of the imbecility in children Drunkenness in the parent may not be followed by drunkenness in the offspring, but epilepsy or kleptomania, hysteria or apoplexy in the mother may be followed by some form of insanity in the offspring Parents transmit not alone their inherited tendencies, but their acquired peculiarities as well There are 100,000 orphans in the United States One-fourth of these are classed as juvenile delinquents or defectives It costs ten million dollars a year to care for those orphans Dr John S Billings, in charge of the Census Office, gave us the following figures for the whole United States in 1890 Insane, 106,254, imbeciles and idiots, 95,571, blind 50,411, deafmutes 41,283, paupers, 73,045, prisoners, 86,000

SEX IN RELATION TO CRIME

Females, being physically weaker than males, are addicted to crime only one-fifth as frequently, and only excel the males in the commission of poisoning and infanticide Woman's natural form of retrogression is prostitution

SEASON IN RELATION TO CRIME

Crimes against property are more prevalent during the cold season of the year and in cold climates, while crimes of passion and against the person are more prevalent in warm climates and during the hot season of the year Intemperance is prevalent in the temperate zone The boy asked his father how it happened that people drank so much beer and whisky in the temperate zone

CAUSE OF CRIMINALITY AND DEFECTIVENESS

Population has increased too rapidly More children have been born to poor people than they could rear properly To raise and educate properly one child requires enormous outlay To raise properly one child would be a big task for most husbands and wives, to say nothing about six or ten children Parents of education and means rarely have more than two children If they have a third child, it is a mistake This is the cause of a lack of growth of the population at the top and of an excessive growth of the population at the bottom According to vital statistics it takes on an average about 3½ children to each couple to propagate their kind Too many people are heedless of all Biblical commands except "multiply and replenish the earth " The next great basic cause of crime and defectiveness is the implied inferiority of women The idea of woman's inferiority has come down to us from a barbarous past The man-made laws have, all along the line, accorded the male sex dominion over the female, which has placed millions of girls and women at a disadvantage in the struggle for bread, and which compels thousands of them yearly to accept degradation or starvation This has kept the moral fabric of society weak Improvement in our race is an idle dream until woman is accorded perfect justice and placed squarely on equality with man The helpless slavery of woman, with the attendant evils of enforced motherhood must be relegated to the rear as a crumbling relic of barbaric injustice If the father be the head and the hands of the family, *the mother is the heart*

A child has a right to be well born The man whose destiny is unfavorably formed for him by his ancestors is to be pitied Many of the rich and poor are alike born into this world with an inheritance of vice and degradation They are crippled from the very beginning, and have only half a chance for health and prosperity The end and aim of sex and sex-relation is simply the perpetuation of the species Sex relation has been diverted from its proper mission As an example, 40,000 abandoned women are to be found in the city of New York The *Arena* for January, 1898, gives the following figures for Massachusetts, New York and Illinois Sixteen per cent of the married men desert their wives after the birth of the first child, and 28 per cent after the birth of the second child The children of such parents are placed at an immense disadvantage Add to this the work of the wholesale divorce mill and it will be apparent that marriage to a considerable extent is a failure Women have opened their eyes to this condition, and as a result 18 per cent of women of marriageable age in the United States have equipped themselves for earning a living independent of man She is a worthy competitor of man today in manufacturing, mercantile, professional and other pursuits When women can completely assert their independence there will be improvement in motherhood Improved motherhood is the safeguard of the generation unborn

Our civilization has developed so rapidly that it has retained many of the elements of barbarism and savagery A relic of savagery is inculcated in this "He who would not avenge an insult is no man" "Manly dignity can be preserved by executing justice himself, not waiting for the medium of the law" In this way violence comes to be regarded as a virtue, revenge as a duty, and crime as heroic In this there is a tendency to return to barbarism which blunts the moral sense The second phase of modern civilization is characterized, not by violence and crimes of blood, but by craft and deceit, as adulterations in commerce, tricks of exchange and official fraud There is a choice of becoming either hammer or anvil, the person who can not crush another without feeling pain must remain an anvil Still the weak must serve the strong The world bows to him who possesses more than others This is the state of society, notwithstanding the bombastic and hypocritical assurance of brotherly love Never before in the world's history has a person needed keener wit, greater frugality and prudence to make a living than now The struggle is fierce and many are falling by the wayside

Heredity is the great causal factor of crime Next to this comes intemperance, which depends largely upon the former It is not encouraging to note that the legal or legislative handling of intemperance has been a failure either in prevention, restriction or cure The drink habit is still spreading The greater portion of crime arises out of our social conditions and is amenable to reformatory measures Only about 20 to 25 per cent of criminals are born criminals Three-fourths of the crime in our land is caused by neglected education

Another source of the multiplication of crime in this country is the almost unrestricted immigration of the lower classes of foreigners from all lands Our population has 20 per cent of foreigners in it but they furnish more than half the inmates of our reformatories, one third of our convicts and three fifths of the paupers supported in almshouses (F H Wines, D D, Report in 11th Census)

Another cause of crime and pauperism is the undue flocking of the urban population to the cities Our jails and prisons are simply high schools of depravity and nurseries of criminals In the jails our courts house ravishers, corrupters of youth, murderers, burglars, thieves, drunkards and all the foul members of society, with children convicted of petty larcenies or of incorrigibility, with detained witnesses and people accused of misdemeanors or crimes not yet tried The inmates of the jail are liberally supplied with tobacco and cards The junior offenders soon become assimilated to their hardened companions, and join the ranks of crime The very air about the jail or prison reeks with crime The criminal serves out his sentence in comparatively comfortable quarters, or he is pardoned out and turned loose upon a long-suffering public upon which he preys and commits atrocities with increased skill It is said that only about one-tenth of the criminal offenses are detected and punished

In our advanced state of civilization, excessive culture has introduced new forms of crime, such as homicide for life insurance and the abuse of alcohol, cocain, opium and other narcotics The negro was transplanted on American soil against his will by the whites and kept in slavery 260 years The negro forms 12 per cent of the population of the United States, commits 33 per cent of the crimes contributes 8 per cent of the paupers and only 5 per cent of the lunatics

To sum up the cause of the over-production of defectives and criminals, it can be stated in one sentence, viz Disobedience to the laws of nature and of physical hygiene during the present or preceding generation From the cradle to the grave man is in constant danger from the effects of violated laws

HOW TO REMEDY THE OVER-PRODUCTION OF CRIMINALS AND DEFECTIVES

This will involve a removal of the causes just enumerated Society concerns itself too much with the punishment of crime and not enough with the prevention of it The lessening of crime is as much a subject for education as for legislation There is little use in passing laws in advance of public sentiment Only one person in ten who has an opportunity to steal is restrained by thought of law His conscience declares that it is wrong and that is enough Good healthy sentiment needs to be awakened with a view to the suppression of crime Wholesome laws will follow in the wake of public sentiment A law without the moral support of the community is useless If society stamps out crime it will not be the work of one generation, or of any single specific A great many remedies must be tried Punishment holds crime in check only, but does not put an end to it Crime is more formidable than pauperism and is almost as costly Only a small percentage of the evils afflicting society spring from want A small number of crimes are due to sheer want of food But prosperity generates criminal inclinations as well as does adversity, and on the whole the rich are about as much addicted to crime as the poor Increase of material prosperity may reduce crime against property, but it increases drunkenness and crimes against the person Increase of wealth must be accompanied by a healthy growth of morals to be a benefit to society Our educational institutions could accomplish more, if more prominence was given to instruction in conduct and morality, but it is more essential that these should be taught and practiced in the homes, and to this end improvement of motherhood is indispensable In the proper training of young children lies the best means of the prevention of defectives and criminals A child at the age of five or six years has imbibed many ideas that cling to him during life I lay great stress upon the training of the rising generation, because more can be accomplished by preventing the formation of bad habits in the young than by trying to reform confirmed transgressors

PRISON REFORM

The treatment of the criminal should fit him rather than the crime The nature of the criminal should be studied, and suitable chastisement meted out to him It should be corrective rather than punitive

A course of instruction in conduct and the duties of citizenship should be part of the prison work The youthful offender should be dealt with kindly The efficacy of fines should be well tried before resorting to imprisonment Junior offenders should not be classed with old offenders Offenders for the second and third time should be classed as life convicts, and be compelled to "work out their own salvation" There should be rewards for toil and punishment for idleness Labor organizations are on record that convicts should work, but for thirty years they have protested against convict labor coming into competition with free labor Convicts should work, but how to employ them judiciously without having their labor come into competition with free labor is difficult to solve The product of their labor should go in the direction of manufacturing articles for the charitable and penal institutions No one should object to this Capital punishment is a crumbling relic of barbarism The murderer is not put to death as frequently as formerly In another generation the death penalty will be abolished Two wrongs do not make a right It is folly to slander the slanderer or to steal from the thief The death penalty used to be inflicted in public, but it was found that publicity of crime was detrimental to the suppression of crime Many people commit crime from imitation by seeing it illustrated in the newspapers The term sentence for prisoners should be abolished The curable should be cured and the incurable should be kept for life in seclusion, at self sustaining labor It would be ridiculous to sentence a lunatic to an asylum for one or two years The criminal should be given an immediate sentence and his liberty should be abridged until he proves himself worthy of the confidence of the community The board of pardons should be made up of the sentencing judges the warden of the prison and one of the chief justices of the State This board should meet quarterly, hear evidence and correct mistakes of sentence

According to sanitary laws, your house may be quarantined and the family prohibited from mingling with the public According to the school laws your children are taken from you five hours per day, from the age 8 to 14 years, for educational purposes In view of all this, it seems reasonable that laws could be enforced to keep poison out of the blood of the nation The State should abridge the liberty of criminals and defectives earlier in their career of destruction The truest kindness to the defective is to prevent him from being born, because he is his own greatest curse Often the greatest liberty is the greatest curse and danger The issuing of marriage license should be restricted by requiring medical and other affidavits to be filed with the probate court showing that the applicants for marriage license are free from insanity, criminality and other hereditary taints The great majority of defectives and criminals can earn their own living under efficient supervision There should be more institutions in the land like the Elmira Reformatory, and colonies for the care and keeping of defectives The outlay now would prove a great saving in the future Prevention is better than cure It is better to keep the murderer from coming into existence than to smooth his pathway to the gallows It cost the State about $20,000 to try Durant, $20,000 to try Jackson and Walling, $25,000 to try Luetgert The cost to the State for trying an alleged murderer, if put on interest, would keep a person a whole lifetime in comparative luxury

ASEXUALIZATION

I have given this subject much thought I have felt the pulse of the public for a long time in the radical and conservative arteries I think the treatment would be effectual, but the difficulties lying in the way are at present insurmountable, except for friendless paupers It would be impossible to follow it out through all the ramifications of heredity when genius and insanity, brilliancy and imbecility are found in the same family Society, as organized at present, accepts the proposition of reforming the whole man, not part of a man Amputation of a thief's both legs would incapacitate him from being a successful robber, but society will not accept such treatment Asexualization of adults often leaves a troublesome amount of sexual desire, and even if it is done in childhood, there is by no means a total absence of it, though it is much lessened Oriental people, including the Turks, have tried this treatment among the Eastern eunuch and have no confidence in it as an agency for moral reform The eunuchs were shameless, melancholic and often suicidal, as well as defective in courage, gentleness and remorse Although the valleys are deep and dark, we must not dwell in an atmosphere of gloom, but must move on and up toward the greater light, realizing that with every step taken vision becomes clearer and more comprehensive, and that positions occupied today with safety were yesterday inaccessible The hilltops of science are luminous, and the public sentiment of the future is destined to be more and more informed by science and will eventually adopt its suggestions in matters of statecraft and social economics

Rape is frequently caused by diseased sexual passions Surgeons daily remove tumors and limbs for the cure of disease To asexualize the rapist would protect against repetition of the offense The punishment would be none too severe The rapist should take the radical treatment How many rapists under sentence for five to twenty years would accept this operation as the price of freedom, would be difficult to say If this class of criminals were given one year after sentence had been pronounced in which to accept this operation as the price of their liberty, only a small percentage of them would remain in prison

Asexualization of defectives and criminals, both male and female, would speedily limit the dissemination of disease, vice and crime It would remove their obliquities and transform many of them into useful and productive citizens By eliminating their productive capacity it would diminish their numbers and permit a rise in the physical, intellectual and moral standard of the race Owing to the innate repugnance toward this condition, as a penalty for crime, it would be a powerful deterrent and thereby diminish crime, protect against many ravagers, and satisfy the vengeance of the outraged community Ignorance, intemperance, poverty, disease and defects are symptoms indicating a social state or condition of crime and pauperism rather than the cause of them Society maintains alive those that would perish without its aid It is folly to permit the breeding of social gangrene

The reproductive organs have no function in the human organism except the creation and gratification of desire and the reproduction of the species Their loss has no effect upon the health and longevity of man. Their removal would destroy desire and diminish the wants of nature. A want removed is equivalent to a want supplied. It would be a kindness rather than an injury to abnormal persons. The operation is simple, safe and painless. It would confer upon inmates of prisons, reformatories, etc., immunity from evil practices, and give them health and strength, satisfaction and comfort for discontent and insatiable desire. The prevention of reproduction should not be objectionable to this class, because idiotic, insane or criminal children are of no comfort to parents. Such surgery is as wise and merciful as vaccination or the extraction of a decayed and aching tooth.

In the *Cincinnati Lancet-Clinic*, Oct. 3, 1896, will be found a description of an operation invented by the writer for the cure of certain cases of insanity. The operation consists in cutting or exsecting from one-fourth to one-half inch of certain branches of the pudic nerve. This causes a suspension of the sexual activities for a period of from one to four years, with a return of same as soon as the nerves are reunited. This operation has not been in use long enough to judge of its usefulness. The sexual instinct was implanted for the propagation of the race, not for its degeneration and destruction. Humanity sins against the Creator by contributory neglect in this matter. Society arrests and confines the lepers, the victims of smallpox, yellow fever or cholera, and treats them as it sees fit. It shuts up the imbecile, the criminal and the insane for the protection of the public. No one questions its right to do so. Yet it allows the deformed and diseased in mind and body and soul to disseminate social leprosy and cancer. This could be prevented by the adoption of an operation almost as simple and painless as vaccination. It seems strange that the matter should be delayed so long. Asylums, prisons, and jails can not be built fast enough to meet the requirements of social neglect. Society is working at the wrong end of the subject. It should get at the rottenness of the root of the tree of humanity. The upper tenth in society has remained about the same for 3000 years. There used to be no submerged tenth, but today we have a largely increasing submerged tenth. There is a lack of growth at the top. Stature and health are decreasing. Weak nerves and weak stomachs are on the increase, as the result of faulty breeding. The decay of the Republic is due to the degeneracy of the people. It is an outrage that the State and Nation stand idly by and permit the intermarriage of criminals, paupers and defectives, thus becoming a party to the wholesale manufacture of probable criminals. The State has the right and power to prevent the probable from becoming the positive criminal.

History records that many cities have been built on this earth, some of them nearly as large and as rich as any of the present age, yet through internal disease they went down in ruin, and nothing but potsherds and broken brick remain to mark their former existence. It is time to put up the signboard and suggest whither we are drifting.

Let the nation adopt the plan of treatment herein suggested for one generation and the result would be that all the inherited rottenness and corruption of ages would be purged out of the people. The criminal and pauper class would become extinct. Asylums prisons and jails would become depopulated. The great burden of taxation would be lifted from the people. Doctor's bills would be less of a drain upon the family and chronic disease would be diminished. Let the sword of justice cut the knot of bondage and let society take control of its own destiny and regulate reproduction with the wisdom of experience, and the "ills which flesh is heir to" will vanish before the glorious dawn of the day of comfort, hope, peace and promise.

Fifth and Wilkinson Streets.

BIBLIOGRAPHY.
Havelock Ellis. The Criminal.
Morrison. The Criminal.
Morrison. Female Offender.
Morrison. Civilization. Cause and Cure.
Fairbanks. Introduction to Sociology.
F. M. Sprague. The Laws of Social Evolution.
Boies. Criminals and Paupers.
Reports from Elmira Reformatory.
Clouston. Mental Diseases.
Bevan Lewis. Mental Diseases.
Tuke. Mental Diseases.
Sterns. Mental Diseases.
Sterns. Insanity. Its Causes and Prevention.
Lombroso. Insanity and Genius.

A CASE OF ACROMEGALY.

Presented to the Section on Neurology and Medical Jurisprudence at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY HENRY WALDO COE, M.D.
Physician in Charge Mindsease Sanitarium, Consulting Neurologist to the Oregon State Institutions for the Deaf, Dumb and Blind, etc.
PORTLAND, OREGON.

Although acromegaly was first described as a medical entity in 1886, since that time (Woods Hutchinson) two hundred and fifty cases have been reported, of an average of about twenty per year. When it is taken into account that probably at least one half of these reported cases, like the one herewith submitted, were recognized although not classified, before Marie brought the subject into prominence, it may not be deemed unreasonable to say that, the world over, ten represents the number of cases annually developing into the malady of acromegaly, and that it is, therefore, one of the rarest diseases known. The subject of acromegaly has been scientifically presented by numerous investigators quite recently, a list of several of the latest of these papers being found at the close of this report, and for the purpose of increasing the number of reported cases and to enhance the value of the more scientific papers on the subject the following is briefly given.

Case 1.—Mrs. F. B., German extraction, aged 68, married, occupation, farm wife. Father living, in good health, aged 93. Mother, who had always been in good health, died recently at the age of 91. Several brothers and sisters are living, and all are, as far as can be determined, in good health, but each of these has a highly developed nervous system. All the members of the family are above the average in size, but no giantism or acromegaly is elsewhere reported. A negative history presented of tuberculosis, heart or other organic disease elsewhere in the family, while there is no special history of former serious illness in the patient herself.

Nothing abnormal was discovered in her physical condition until 50 years of age, when the irritability of the nervous system, characteristic of the family, began to be more pronounced and defect in the exercise of normal will power more manifest. The normal processes of cerebration declined rapidly, and on Feb. 21, 1893, she became so homicidal that she was committed to the Oregon Insane Asylum at Salem, where she has since remained. To Dr. D. A. Paine, the superintendent of that institution, I am largely indebted for much of the data making up this report. At the time of examination for commitment the physician making the same reported as follows: "This patient is a large, fleshy woman, with the vegetative functions well performed. Her lungs and heart are normal as are all the organs so far as can be determined. Mentally all the perceptions are normal. Her emotions are moved to great rage without provocation, or to great affection, although the latter much more rarely. Her intelligence is limited and she is incoherent in speech. Her will controls her only in many festing her physical wants She is abusive in her language, and sometimes violent with her hands "

No record was made at the asylum at that time of any special deformity of any portion of her body, and as the report of the examining physician of the committing court seems to show that a careful examination was made by him, and as he says that she was physically in a normal condition, we may therefore reasonably presume that acromegalous enlargement and deformity were not at the time present, or if so, in so slight a degree as to be unnoticeable The incoherence, however, may have been a lingual ataxia from an enlargement of the tongue, already beginning at that time

Three years later, the hospital reports spoke of the tongue as "large," and also that the "feet and hands are larger than usual " At this time such report also says, "bowels regular " Good pulse At irregular intervals her face and neck became congested Coarse, loud, vicious, and profane in speech, which is in a coarse, low pitched voice Delusions and hallucinations Her general condition remained much the same, her mental state showing increased impairment, and on June 6, 1889, we find that she was reported as well nourished, with bodily functions fairly well performed, and that she had constant delusions, illusions and hallucinations, although she did not always obtrude them Occasionally she was noisy, excited, abusive and violent, and her reasoning power and memory were defective

Five years later, June, 1894, her physical condition was good, all functions being well performed "Face, hands, feet and body generally enlarged The tongue being too large to remain ordinarily within the mouth, is always protruded when she sleeps Excitable and violent Locomotion somewhat impaired, and no particular desire to move " At the present time she is able to walk only with much difficulty, from general weakness and ataxia She prefers to, and does, sit in a large arm rocking chair most of the time She has delusions, one of which has been fixed for many years, that is, that her former "neat, tidy and small body was stolen, and they put me in this big, ugly body " She is well nourished, eating and sleeping well Her extremities have shown further growth, and her hair has notably grown coarse during recent time Most of the joints are normal, although all the metacarpo phalangeal articular extremities are enlarged Soft parts of the fingers enlarged, of sausage character The inferior maxilla has grown prominently forward, and the teeth in closing extend beyond the upper three fourths of an inch Zygomatic arches somewhat prominent, and the nose and ears larger than normal The superciliary arches protrude slightly The spine is normal The thyroid is small, the thymus not discernible The sternum is increased in size, and the whole chest enlarged The clavicles are thickened She is strong and vigorous in general appearance, and weighs 202 pounds Her present height is 5 feet 5½ inches Length of arm axillary fold to tip of finger, 24½ inches Length of middle finger, 3½ inches The thumbs seem shorter than they should be, relative to the fingers Finger nails coarse and thick The circumference of the head is 22 inches

There is no sugar in the urine, and Dr J T Williamson says that there is no record of any diabetic symptoms having been present since his connection with the case, eleven years ago Her pulse is usually rapid and her respiration slow She has a blowing murmur with the second sound of the heart

A feature of possible etiologic interest in this case is that the father and mother were first cousins

BIBLIOGRAPHY

Acromegaly, Exophthalmic Goitre, Phthisis Glycosuria, Dr Geo R Murray

A Case of Acromegalia Harlow Brooks, M D N Y Med Journal March 27, 1897

Acromegaly Necropsy Norman Dalton Lancet, May 22, 1897

Two Cases of Acromegaly, H Gifford, M D Wes Med Review, June, 1897

Skiagraphs of Acromegaly Dr O L Schmidt Medicine, July, 1897

A Case of Acromegaly O Osborne M D Yale Med Jour Nov, 1897

Treatment of Acromegaly by Extracts of Thyroid and Pituitary Glands Simultaneously, H D Rolleston Lancet Dec 1, 1897

The Brain and Spinal Cord from a Case of Acromegaly, Wm A Spiller, M D

Report before Phila Neurological Society Journal of Mental and Nervous Diseases January, 1898

A Case of Acromegaly A Ferree Wilmer, M D Int Med Magazine, January 1898

A Case of Acromegaly Dr A Ferree Whitmer Jour of Nervous and Mental Diseases January, 1898

The Pituitary Gland as a Factor in Acromegaly and Giantism, Woods Hutchinson, M D Med Jour March 12 and April 2, 1898

Acromegaly in Nebraska Third Case, H Gifford, M D Western Medical Review March 1898

A Case of Acromegaly with Diabetes, T L Chadbourne M D New York Med Journal, April 2 1898

THE ARTIFICIAL FEEDING OF INFANTS IN GASTRO-INTESTINAL DISTURBANCES

Presented to the Section on Diseases of Children, at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo June 7-10 1898

BY J M G CARTER, M D, Sc D, Ph D

Professor of Clinical and Preventive Medicine in the College of Physicians and Surgeons Chicago (School of Medicine, University of Illinois) Fellow of the American Academy of Medicine Late President of the Illinois State Medical Society, etc

WAUKEGAN ILL

Careful study of artificial feeding must be made in two classes of patients, 1, infants whose mother's milk does not agree, and 2, whose mothers are unable to nurse them Some of these cases may be supplied by a wet nurse and perhaps everything pass along satisfactorily, but so much trouble is sometimes experienced with wet nurses and so much success attends artificial feeding by means of cow's milk, that many physicians today have almost entirely abandoned the wet-nurse method of feeding babies, especially in view of the fact that it is often difficult to secure a wet nurse whose constitutional history is entirely satisfactory

In every case it is necessary to determine the cause of disturbance Not until this is done is the physician in a position to permit or advise the adoption of an artificial diet The most common cause of digestive derangements in infants is some fault in the feeding There are at least four factors in this cause, one or more of which are usually present 1, the food may be poor in quality, 2, it may be deficient or too abundant in quantity, 3, the interval between feedings may be too short or too long, 4, the food may not be of proper temperature Rarely, cases of congenital malformation or imperfect development of the secretory apparatus of the stomach may cause trouble, even when every precaution has been taken in regard to quality and quantity of food, and where proper intervals between feedings are scrupulously observed

The first inquiry has reference to the source of the food If it is mother's milk the health and temperament as well as the disposition of the mother must be taken into consideration If the milk is too acid the administration of a little lime-water after each nursing may correct the difficulty The mother's milk may contain too great a relative proportion of proteids and because of this constantly give rise to digestive derangements In such a case, as well as in some others, the use of mother's milk is often necessarily abandoned and some form of artificial food prescribed If the disturbance has continued until organic lesion of the stomach has supervened, as chronic dyspepsia or gastritis, additional modifications of the food may be required Partial or complete predigestion or peptonization of cow's milk, especially for older children, may do very well in a few cases In many cases, however, it is a long and tedious task to find a preparation which will entirely remove the condition and relieve the symptoms

Next to mother's milk cow's milk is the proper food for infants, but it must be modified in the relative proportion of its elements so as to correspond with human milk Each case requires special investigation If there is constipation and a poorly nourished condition of the patient, cream should be given in larger proportion than in cases of well-nourished infants with a tendency to diarrhea Bearing in mind the fact that normal human milk is alkaline, while cow's milk is neutral or acid, a necessity will be recognized for using a little lime-water with cow's milk If the milk is not sterile it ought to be sterilized If proper precautions have been taken in milking the cow, and the milk is passed *at once* into sterilized bottles, a healthy cow's milk *is sterile* and needs no heating except to raise it to proper temperature for feeding the baby—about 98 or 100 F

It is necessary to analyze the milk before a proper comparison with human milk can be made, but when the exact composition is known, a simple calculation enables one to make the proper modifications The method of procedure may be illustrated by referring to a case in my practice recently The baby had considerable digestive disturbance and two or three slight convulsive seizures The mother was tired and nervous, and anxious, but she had previously nursed two children without any disturbance whatever This latter fact made it hard to convince her that the food was the cause of the disturbance An analysis of her milk showed that it contained 2 80 per cent of proteids, a proportion entirely too large Otherwise the mother's milk was normal The simple problem was to prepare a food from cow's milk which should equal human milk The milk of the cow which belonged to the family was analyzed and found to consist of water 87 3, fat 4 lactose 5 69, proteids 2 80 per cent Normal human milk contains water 88 4, fat 4 lactose 6 50, proteids 1 80 per cent To reduce the cow's milk which we were to use in this case to the equivalent of normal human milk the following changes to make 500 c c for baby were used Milk 312 c c, water 178 c c (water 174, lime-water 4) cream, 9 c c, lactose (milk sugar) 10 gm When it is not convenient to analyze the milk to be used, the following formula for changing dairy cow's milk to the equivalent of human milk is very convenient and approximately correct Milk, 300 c c water 166 c c, lime-water, 4 c c cream, 30 c c, lactose (sugar of milk) 8 gm. If constipation is present and the liver is acting properly the cream should be increased if diarrhea prevails, the cream may need to be reduced or the lime-water increased Sometimes colic and even diarrhea result from the proteids present in the milk, in which case it may be found necessary to diminish the proportion of milk and increase that of cream and water There are few cases which seem to fare badly on milk in any form Some of these thrive on a mixture of cream, sugar and barley water Not unfrequently some of the prepared foods serve every purpose, and being convenient and easy of preparation it may be entirely proper to use them, but the child must be observed closely in order to see that it is properly nourished

If in a given case it is found that the quality of the food is normal, the second point to determine relates to the quantity the baby receives When the quality is right, a deviation from the normal is usually toward excess Babies are likely to be fed too much as well as too frequently A healthy child easily rejects an over-abundance of milk without serious consequences, but if any diseased condition exists in the stomach, the vomiting becomes the symptom of pathologic changes In a table given below I give the quantity which will meet the requirements of most cases Variations as indicated in the table, and frequently greater variations than there given, are required These may depend upon conditions of the stomach and the size and weight of the child The age of the patient exerts a marked influence and must always be taken into account It is surprising in many cases that so little attention is bestowed on the age, the weight and the condition of the child's stomach Particularly is this true in general practice in the hands of too large a proportion of the profession

TABLE ACCORDING TO AGE

Age	Temperature of food	Intervals, hours	No of feedings in 24 hours	No of night feedings	Amount at each feeding		Total amount in 24 hour	
					oz	c c	oz	c c
One week	100	2	10	2	1 -1½	30-45	10 -15	300-450
Two weeks	100	2	10	2	1½-2	45-60	15 -20	450-600
Four weeks	98	2	10	2	2½-2¾	75-85	25 -28	750-850
Six weeks	98	2¼	10	2	3	90	30	900
Eight weeks	98	2½	9	1	3½	105	32	950
Three months	96	2½	9	1	3½-4	100-120	32 -36	960-1080
Four months	96	2½-3	8	1	4½-5	135-150	36	1080
Five months	90	3	7	1	5½	165	38½	1155
Six months	90	3	7	0	5¾	172	41	1204
Seven months	90	3	7	0	6	180	42	1260
Eight months	90	3	6	0	7 -7½	210-225	42 -45	1260-1350
Nine months	90	3	6	0	7½	225	45	1350
Ten months	90	3	6	0	7¾	233	46½	1395
Eleven months	90	3	5	0	9½	285	48	1440
Twelve months	90	3	5	0	9½	285	48	1440

The third point of interest in our study is the proper interval between feedings This is shown in the table for different ages for the first year It sometimes occurs that pathologic conditions, as acute gastritis may require deviation from the suggestions here offered, and not only a reduction in amount, but a lengthening of the intervals may be necessary The necessity frequently arises for rectal alimentation until the stomach has had rest Frequent feedings with smaller amounts of nourishment, when milk is the diet, are objectionable because of the danger arising from having the stomach functionally engaged in two or three sta[illegible] at the sa[illegible] In stomachs with impaired digestive power it is frequently necessary to peptonize the milk or administer it alternately by mouth and rectum, so as to give the stomach time to complete one meal before another is given Many cases of rachitis are due to too frequent feeding I have met cases of anemia and subacute and chronic gastritis in children which were due to the habit of feeding at too short intervals Care exercised in this particular will obviate many of the disturbances of infants in the first year of life In general practice one of the most frequent vexations of the physician is to find that the mother or nurse girl is careless about the temperature of the baby's milk If it is warmed at all, it is not warmed to a definite degree, and if it is to be pasteurized, often the matter is overdone and the milk boiled

Artificial food for babies in the first month ought to have a temperature of 100 degrees F After that time it may vary between 100 and the figure given in the accompanying table The food must not be prepared and then allowed to lie about until it is cold before using The approach to mother's milk should include temperature as distinctly as composition As the child grows older, after three months, the proportion of water may be gradually reduced and that of milk increased, until at eight or ten months cow's milk unmodified will be borne by many children The fact that many children survive the almost criminal negligence of their nurses in the particulars here mentioned is not of sufficient weight to justify a departure from rigorous care The food should be sterilized, it must be of proper quality, of sufficient quantity, administered at proper intervals and be of proper temperature In pathologic cases additional modifications may be required

---

THE SURGERY OF CAMP WIKOFF

BY N SENN, LIEUT COL U S V

CHIEF OF THE OPERATING STAFF WITH THE ARMY IN THE FIELD

(*Continued from page 1307*)

ABSCESSES

We would naturally take it for granted that among the returning soldiers from Cuba, owing to their greatly debilitated condition, suppurative affections in different forms, and affecting various tissues and organs, would furnish a rich and interesting material for the surgical ward of the General Hospital The sources of infection were many, and the resistance of the tissues to pathogenic microbes in most of the men who returned was at low ebb A good share of the surgical work consisted in incising and draining abscesses, some of them of enormous size In the treatment of all of these cases, owing to the pronounced anemia and great weakness, special precautions were resorted to to prevent the loss of even as much as a teaspoonful of blood in performing the operations In abscesses in the anal region the Paquelin cautery was usually used in preference to the knife, in laying open the abscess cavity In other regions the abscess was opened by making an incision through the skin and underlying fascia large enough to admit the tip of the little finger, when the remaining tissues were tunneled with a pair of curved, rather sharp pointed forceps, and the tubular wound enlarged to the requisite extent by expanding the blades of the forceps during the withdrawal of the instrument In most instances a counter opening was made by plunging the forceps into the abscess cavity, inserted into the first opening, through the tissues from within outward until the tip of the instrument made a cone of the skin which was then incised, not over, but on the side of the instrument, sufficiently to permit the easy escape of the instrument when the canal was enlarged by expanding the blades, after which the end of the drain was grasped transversely and by withdrawing the instrument through drainage was established The drains used were freely fenestrated, the openings being numerous, but never larger than to correspond in size to one fourth of the circumference of the tube The opening and counter opening were made in places where drainage and irrigation would prove most efficient In several cases in which the counter opening could not be made by the use of the forceps, the abscess was opened in the usual way, and after evacuation of its contents peroxid of hydrogen was injected until the cavity was well distended, when the second opening was made in the same way as the first After opening and draining the abscess, irrigation with a 2½ per cent solution of carbolic acid, followed by peroxid of hydrogen, and finally again with the carbolized solution In all abscess cases the dressing consisted of a compress of gauze wrung out of a 2½ per cent solution of carbolic acid, over which oiled silk was applied with absorbent cotton around its edges, to act as a filter, and the whole confined in place by a well applied bandage In the more serious cases the dressing was removed, the abscess cavity flushed, and a new compress applied twice daily Whenever it was deemed necessary, the affected limb was immobilized This treatment proved uniformly successful in preventing profuse suppuration and was always followed by rapid improvement in the general condition of the patient

In the medical treatment of these cases quinin was used freely, as well as alcoholic stimulants Iron preparations and a nutritious diet proved most effectual in improving the condition of the impoverished blood and in restoring normal nutrition

CONNECTIVE TISSUE ABSCESSES

The connective tissue was the tissue most frequently the primary or secondary seat of infection The phlegmonous inflammation which led to connective tissue abscesses occurred almost exclusively in men whose general health was shattered As a rule the patients suffering from this affection presented an anemic almost waxy appearance and were greatly emaciated The deterioration of health was due to antecedent causes, malaria, yellow fever, dysentery, diarrhea, exposure and improper or insufficient food The phlegmonous inflammation in most instances pursued a rather insidious process and was clinically not characterized by the complexus of symptoms which ordinarily accompany the inflammation preceding an acute abscess The pain was often slight, tenderness moderate, and the skin seldom showed the inflammatory blush which so constantly is seen during the development of an acute subcutuneous abscess A tendency to burrowing was manifest in most cases The induration of the abscess wall, so common in acute abscess, was lacking in most of our cases There seemed to be a total absence of a tendency to the limitation of the area of abscess formation The cases that came under our observation resembled in their symptomatology, pathology and clinical course very closely abscess formation as seen during the latter course of any prolonged acute infective disease, or during convalescence from such In opening these abscesses I was always careful to make the openings some distance from the center of the abscess cavity, in preference at its margins, and the same location was selected in case a counter opening was made By following this method of incising and draining the abscess the skin over the center of the abscess, damaged to the greatest extent by the underlying phlegmonous process was avoided, and complete evacuation and free drainage secured The same careful preparations were made for the operation as in cases requiring surgical intervention for aseptic conditions, with a view of guarding against secondary infection

Under this treatment, the general and local conditions of the patients improved very rapidly In abscesses of very large dimensions from two to four incisions were made and as many points of drainage established As suppuration ceased and the abscess cavity commenced to shrink, the drains were shortened from time to time to enable the process of healing to proceed without hindrance from mechanical causes

Case 14 —Robert Bloedel, age 25 Third Infantry Band, enlisted fifteen months ago Had chills and fever in Cuba for about a month, followed by dysentery Is still suffering from the diarrhea which followed the dysentery and the patient is much emaciated and very anemic Before going to Cuba he noticed a small pimple on his neck Just before leaving Santiago, swelling of the neck began in the connective tissue, at the site of the pimple, and has progressed steadily Examination of the cavity of the mouth does not reveal a source of infection There can be but little doubt that the minute furuncle, which proved harmless as long as the patient remained in good health, became the focus of infection of the underlying connective tissue which was made more susceptible to infection by the effects of disease A large fluctuating swelling in the neck, just below the angle of the jaw, marks the location and extent of the connective tissue abscess Pain has never been severe Edema, but no redness of skin All of the local symptoms indicate a slow, subacute inflammation of the deep connective tissue The patient was etherized and through drainage was established, the drainage tube being placed in an oblique direction from the floor of the abscess to a point opposite and behind A large quantity of creamy pus was evacuated and the cavity thoroughly washed out with carbolized solution and peroxid of hydrogen A large moist antiseptic compress covered with oiled silk was applied and held in place by a bandage Very little suppuration after operation, speedy healing of the abscess cavity accompanied by a marked improvement in the appearance of the patient

Case 15 —P P Sprague, age 29, Seventh Infantry, Company I, entered the regular service seven months ago He landed in Cuba July 10 Contracted malaria, lost flesh and strength, but continued to perform his usual duties About three weeks ago he experienced a sense of soreness in the calf of his right leg in the region of a scar from an injury received during childhood The soreness increased slowly in severity, and for a number of days he has suffered from a throbbing pain sufficiently severe to prevent sleep The patient is much enfeebled from the effects of the previous disease aggravated by the recent attack of phlegmonous inflammation No local source of infection could be found on the most careful search It is very probable that the scar tissue furnished the *locus minoris resistentiæ* which determined localization of pus microbes floating in the general circulation sufficient in number and virulence to give rise to a subacute phlegmonous process The whole leg is swollen from the ankle to the knee, tense and edematous, a circumscribed inflammatory blush over the lower portion of the gastrocnemius muscle Fluctuation deep seated, somewhat obscure and diffuse

The diagnosis made at the time, was deep seated phlegmonous abscess involving the connective tissues between the deep seated muscles of the leg August 29, under ether unesthesia the abscess was opened by an incision over the posterior aspect of the leg in the median line, at a point where the muscle terminates in tendon, a large quantity of thin bloody pus escaped As it was found impossible to make a counter opening in the upper recess of the abscess cavity by the use of forceps, peroxid of hydrogen was injected through the opening to distend the abscess cavity sufficiently to facilitate incision from within out The second incision was made in the usual way over the upper third of the fibula and a counter opening established on the tibial side, effecting in this manner efficient through drainage below and from side to side Digital exploration through the three openings located the abscess correctly anatomically In exploring the interior of the abscess the tibia and fibula could be distinctly felt The abscess cavity was disinfected in the usual way and after applying the wet antiseptic compress, the patient was returned to his cot and the limb placed in an elevated position The final recovery of the patient was retarded by several severe attacks of malaria during one of which the mercury reached 106 F The chills and fever yielded to large doses of quinin

Case 16 —Henry H Mix, age 21, Third Infantry, Company F, enlisted three months ago On June 6 last, while on parade had an attack of heat exhaustion followed by diarrhea for several days At Tampa, June 8, two days later, he was put on sick list for two furuncles behind the left knee These healed promply July 10 on reaching Cuba, he suffered from furuncles on buttocks, also malarial fever and diarrhea At this time an abscess formed in the right popliteal space, which pursued an insidious, chronic course At the time the patient reached Montauk, he was very anemic and almost reduced to a skeleton, and the abscess had opened at different points The subcutaneous tissue was extensively undermined and through the openings the fungous lining of the cavity could be distinctly seen The abscess cavity discharged profusely and extended from the middle of the thigh to the upper portion of the calf of the leg August 29, the sinuses were enlarged a number of counter openings made and free tubular drainage established The abscess cavity was thoroughly disinfected and a large moist antiseptic compress applied As there was some tendency to contraction of the knee joint, the limb was placed in a straight position and immobilized by the use of a well padded anterior wire splint so applied that the abscess could be exposed and treated without disturbing the limb Malarial fever which developed on the second day after the operation, retarded the healing process, and for a few days threatened the life of the patient After the fever was under control by the administration of large doses of quinin a satisfactory process of repair set in, which soon effected healing of the abscess and restoration of tisssues lost by the extensive destructive process

Case 17 —Joseph McGuire, Ninth Massachusetts Volunteers Company C, had some febrile attack in Cuba, the nature of which is not known He was admitted to the surgical department of the General Hospital, September 7 suffering from a superficial connective tissue abscess over left triceps about two inches below the shoulder joint He has at the same time an alveolar abscess which is discharging through a carious tooth The infection in this case evidently took place from the blood, as there are no traces of the existence of a local infection atrium to which the phlegmonous process could be attributed Through drainage and moist carbolized dressing

Case 18 —James F Dite age 21, First Illinois Infantry Company H, received a severe contusion of anterior surface of right thigh from falling log near Santiago He was treated by a Cuban doctor for rheumatism, and then sent to the Division Hospital where a swelling which had formed at the site of injury was incised, but no pus escaped The swelling remained and gradually increased in size When admitted to the surgical ward his general health was precarious Marked anemia and emaciation The anterior aspect of the affected thigh from near the knee to the inguinal fold was the seat of a fluctuating swelling The center of the swelling was occupied by a small granulating area marking the place where the incision was made The abscess was underneath the quadriceps femoris muscle, and evidently the incision had not been made deep enough to reach the pus As the skin was not broken by the injury, infection was determined by microbes floating in the circulation and their localization and growth in the contused deep connective tissue Under anesthesia the abscess was opened at the most dependent point and a counter opening made on the opposite side with the aid of distension of the cavity by peroxid of hydrogen injection Through drainage and thorough disinfection of the interior of the abscess cavity completed the operation Prompt relief and improvement followed the operative intervention

Case 19 —Dennis Riley, age 21, First District of Columbia Infantry, Company E, after passing through a rather severe attack of typhoid fever was admitted to the surgical ward suffering from multiple abscesses, varying in size from that of a pea to a walnut, involving the face and the neck The largest abscess was above the left eyelid All of these abscesses had their primary starting point in the subcutaneous connective tissue Treatment by incision and drainage Convalescence progressed without any further interruption The location of these abscesses on the exposed part of the body would indicate that the infection had a local source, probably slight abrasions inflicted by the patient himself during the course of the fever

Case 20 —Edwin Stockwell, aged 28, Second Infantry, Company I, was well until the day before leaving Cuba August 10 on that day felt very weak and sick On boarding transport had to lie down, vomited, then felt better for a time then weak and sick and nausea and vomiting again He was feverish all the time and slightly jaundiced, but continued on duty with the sick Some doubt remains as to whether this attack was a mild form of yellow fever or malaria Since his arrival here he has done duty as a nurse Five or six days ago a furuncle developed on the middle of the posterior aspect of the right thigh, below the gluteal fold This opened and discharged slightly, but the swelling has continued to increase in size On examination a crater like defect in the skin marks the site of the primary focus of infection From this point a red zone of inflammation extends in all directions equally to a distance of two inches The phlegmonous [illegible] connective tissue inflammation had its origin from t[illegible] complication would probably not have [illegible] general health and power of resis[illegible] had not been impaired by the an[illegible] The skin around the furuncle was extensively undermined The cavity was freely laid open by a vertical incision and the necrosed tissue and infective granulations scraped out with a sharp spoon, and after thorough disinfection was lightly packed with a strip of iodoform gauze, and a large moist compress applied

Case 21 —John A Johnson, aged 24, Third Infantry, Company H, enlisted eight months ago Phlegmonous inflammation of middle finger of left hand Three weeks ago had an attack of malarial fever in Cuba, which was complicated by diarrhea He was treated four days in one of the hospitals, when he returned to his command for duty The fever left him in a weakened condition Ten days ago on leaving Santiago, he noticed a soreness over the dorsal side of the middle finger of the left hand directly over the middle joint Cause of infection not known An acute superficial abscess formed, attended by great pain until it ruptured A considerable portion of the overlying skin sloughed, leaving a ragged surface with edematous red margins On August 27, the patient was placed under an anesthetic, when a thorough examination showed that the infective process did not extend to the joint or the extensor tendon With sharp spoon, scissors and forceps the infected tissues were removed, the resulting surface disinfected and packed with iodoform gauze and the finger immobilized on a palmar splint The wound healed promptly and the prospects are that the finger will regain its normal functions

Case 22 —Richter, aged 23, First Illinois Infantry, Company D, contracted typhoid fever in Cuba five weeks ago During the fever a copious herpetic eruption made its appearance on the upper lip and about the nasal orifices The fever left him in a greatly emaciated condition A swelling formed in the left cheek during the last three or four days and increased rapidly in size Pain and tenderness not well marked The patient sought medical treatment at the surgical ward Sunday, September 11 The left cheek was the seat of a large fluctuating swelling Diagnosis made at the time—abscess of cheek The abscess was incised from the mouth and a large quantity of very offensive pus was evacuated The patient was directed to resort to frequent rinsings of the mouth with a saturated solution of boracic acid and was given a furlough to enable him to return as quickly as possible to his home Infection in this case undoubtedly occurred through the skin defects left by the herpetic eruption

GLANDULAR ABSCESS

In the discussion of phlegmonous abscess, infection was traced either to a *portio invasionis* or local conditions, which determined localization from local causes, in cases in which it was reasonable to suppose that the essential cause of infection existed in the general circulation Without calling attention to the fact, it is reasonable to suppose that in the first class of patients the essential microbic cause reached the tissues through the connective tissue spaces, that is, that a direct anatomic connection existed between the primary essential infection atrium and the seat of secondary phlegmonous manifestations In the consideration of glandular infection it is essential to connect the infection atrium anatomically and physiologically, with the secondary glandular suppurative conditions We are able from the clinical history and the pathologic conditions presented in most of the cases to establish such a direct connection between the primary source of infection and the secondary glandular manifestations I have reason to believe that in most of these cases the essential cause of infection was the streptococcus pyogenes, because it is well known that this pyogenic agent usually follows either the connective tissue spaces or the lymphatic channels in giving rise to a distant infective suppurative process

Case 23 —Patrick Collins, age 28, Company C, Eighth Infantry, enlisted one year ago About the middle of July, while in Cuba, had a malarial chill followed by fever Has had fever and diarrhea, and has been on the sick list ever since While returning on transport from Cuba he experienced soreness in the region of the left parotid gland, this symptom has been followed by the usual clinical evidences indicative of the existence of an abscess in that locality On August 29 he presented himself at the surgical ward, and at that time it was not difficult to diagnosticate the existence of a large abscess in the region of the parotid gland At that time, under ether anesthesia, it was easy to recognize a diffuse abscess in the parotid region It was more difficult to decide whether this abscess was of malarial or typhoid origin Two incisions were made, an extensive purulent product was evacuated, and efficient through tubular drainage was established In this instance the whole gland seemed to be surrounded by the suppurative products and the through drain was passed underneath the gland that was the primary seat of the secondary field of infection The patient improved rapidly after the operation

Case 24 —John Williams, age 25, Ninth Cavalry, Troop F, colored, enlisted four months ago Following a strain in lifting and exposure in rough weather, while on duty in the Camp at Tampa, Fla, he became aware of the enlargement of the inguinal glands on the right side The glands were very painful when he was on active duty There are no evidences of general infection of any kind and the most scrutinizing examination failed to detect any tangible source of infection in the distal side of the lymphatic circulation On palpating, three or four inguinal glands were found distinctly enlarged with plain evidences of beginning perilymphadenitis, but no distinct abscess formation On August 22 chloroform was administered and a curved incision made, with the convexity directed upward in such a manner as to expose the infected glands freely The glands, three in number, honeycombed with pus were enucleated A place for drainage was established, the wound thoroughly disinfected with iodoform, when the external incision was closed with sutures of horsehair The wound healed promptly by primary intention

Case 25 —George A Roberts, Sixteenth Infantry, Company H, colored, was ill eight days with malaria in Cuba, was after that on duty until his arrival in Montauk, when he again had malarial fever During this attack a furuncle developed on calf of the right leg and opened spontaneously From this point a lymphadenitis started, which extends to the deep lymphatic glands in Scarpa's triangle and terminated in a lymphadenitis and perilymphadenitis The lymphatic glands in this region, being in a state of inflammation, resulted in the formation of a tender and painful swelling four inches in length and about three inches in width No fluctuation and no inflammatory discoloration of the skin The patient was confined to his cot with the affected limb in an elevated position A large compress saturated with 2½ per cent hot solutionof carbolic acid Applied Credé's silver ointment to be rubbed into the skin over the swelling once a day Under this treatment the inflammatory process subsided and the prospects are, that the swelling will disappear without pus formation

Case 26 —Frederick Warner, age 37, colored, Ninth Cavalry, Troop L, contracted chancroid about six weeks ago, while on duty at Tampa The lymphatic glands in the inguinal region became infected and the suppurative lymphadenitis terminated in the formation of three glandular abscesses, which opened spontaneously At the time the patient was operated upon, September 1, three fistulous openings were found, and the connective tissue was extensively infiltrated No scars or other evidences of the primary lesion can be detected It was plainly a case of suppurative lymphadenitis, caused by invasion with pus microbes from the external genitals Under chloroform anesthesia the sinuses were enlarged, and the remaining broken down gland tissue and infected granulations removed by a vigorous use of the sharp spoon The resulting wound was thoroughly disinfected, iodoformized and packed with iodoform gauze and covered with a large moist antiseptic compress of gauze, over which was placed an overlapping piece of oiled silk, and the whole dressing held in place by a bandage embracing the pelvis and upper part of thigh The patient left the hospital a week after the operation, at which time the abscess cavities were much diminished in size and lined by vigorous healthy granulations

Case 27 —John H Butler, age 21, Ninth Cavalry, Troop L, colored Tubercular lymphadenitis of submaxillary gland Family history negative Mother and father living, two children died in infancy, rest living and in good health About two months ago began to have pain in right side of neck and submaxillary region, and then noticed a small, hard swelling below the angle of the jaw Additional glands in the same region became involved At the time he entered the surgical ward a large glandular mass, composed of several enlarged lymphatic glands, was found in the right submaxillary region On palpation the swelling was painful, but no distinct fluctuation could be felt Inspection of the mouth failed to reveal anything which could be regarded as an infection atrium The tubercular nature of the glandular affection was recognized, and a radical operation for the removal of the glands was performed September 6, the patient being under the influence of chloroform The glandular mass was freely exposed by a semilunar incision with the convexity downward and by reflection of the cutaneous flap in an upward direction The whole mass was dissected out in one piece, which included not only the tubercular glands, but likewise the infiltrated connective tissue surrounding them The submaxillary gland was exposed, and during the latter part of the operation it became necessary to cut and ligate the facial artery The gland tissue throughout had undergone coagulation necrosis, each gland contained several foci of caseation The wound was iodoformized and sutured throughout with horse hair, provision for gauze drainage having been made by making a button hole near the margin and center of the flap Healing by primary intention

Case 28 —Schuyler C Black, age 31, Ninth Cavalry, Troop I, colored, enlisted four months ago Chronic balanitis and bilateral plastic lymphadenitis of inguinal glands In June last noticed enlargement of inguinal glands on both sides, following a small sore on the glans penis near the corona He was treated for primary syphilis, and was given large doses of potassic iodid At no time was there any induration at the base of the sore, which always presented the appearance of an abrasion rather than an ulcer At no time have there been any indications of secondary syphilis The lymphatic glands in other regions of the body are normal The patient states that the sore has healed repeatedly, reappearing at varying intervals in the same place Examination of the penis reveals slight phimosis, chronic balanitis which has resulted in great thickening of the mucosa lining the prepuce The sore, which has been a source of great mental distress to the patient, appears in the form of a very superficial abrasion not larger than a split pea with ill defined margins and no induration whatever at its base Recently the preputial margin became the seat of a herpetic eruption The lymphatic glands in both groins are hard, not very tender to the touch and vary in size from that of a pea to a hazelnut September 13, typical circumcision was performed under chloroform narcosis It is expected that the removal of the direct cause of the lymphadenitis will be followed by a speedy reduction in the size of the glands The essential cause is to be attributed to the entrance of pus microbes into the lymph channels from the local lesions of the glans penis and prepuce which became arrested in the lymphatic filters, producing an inflammation which came to a standstill short of suppuration

Case 29 —Robert V Smith, age 21, Tenth Cavalry, Troop E, colored, enlisted June 20 A month ago while in camp in Florida, he noticed a number of small pimples on the scalp on the right side These small furuncles still exist and a week ago gave rise to a deep seated lymphadenitis affecting the lymphatic glands in the superior posterior triangle on the corresponding side of the neck When the patient came under observation, September 13, a large and somewhat diffuse swelling marked the location of the infected glands, evidently the connective tissue around and between the glands is secondarily implicated in the inflammatory process The swelling is hard and tender on pressure No signs of central softening Evening temperature 102 F morning temperature 100 F Directions were given to clip the hair short, and to disinfect the entire scalp Credé's silver ointment to be rubbed into the skin over the swelling and to apply a hot, moist antiseptic compress The patient is anemic, for which condition Gude's pepto mangan was prescribed There is some prospect that the removal of the source of infection and the local applications will succeed in arresting the process and in effecting resorption of the inflammatory product

This hope was not realized as a few days later, September 23, distinct fluctuation was felt and the abscess was incised and drained, the patient being under the influence of chloroform Rapid improvement followed the operation

ABSCESS FOLLOWING TYPHOID FEVER

It is somewhat singular that among the hundreds of cases of typhoid fever, that I had an opportunity to see and examine in Porto Rico and in this great national camp, no cases of perforation have come to my notice I kept myself in readiness to perform laparotomy at a moment's notice, but my services were never requested for this particular purpose I have no doubt but that some of the deaths from typhoid fever were due to this cause, and that this fatal complication was either overlooked or the general condition of the patient was so grave when it occurred, that the attending physicians did not deem it advisable to send for the surgeon In this camp we had all the necessary facilities for abdominal operations, and I was hopeful that I should have an opportunity to give surgery a fair trial in such cases, but in this I have been disappointed The most important and most frequent complications of our typhoid fever patients have been bedsores and abscesses The careful and attentive nursing our patients here have received, has done much in reducing the mortality and suffering from decubitus Frequent washing with alcohol of the parts exposed to decubitus and the use of rubber pillows, and in the worst cases, of water or air beds, have contributed much in the prevention and successful treatment of this complication We have had however, an excellent opportunity to study the etiology and pathology of abscesses as a complication of typhoid fever The material was abundant and interesting It is a source of regret to me that we did not have at our disposal a well equipped bacteriologic laboratory to enable us to study in a more satisfactory manner the contents of those abscesses Acting Assistant Surgeon Ewing brought his own microscopic outfit, including the different stains, and did good work in the microscopic examination of pus and other pathologic products, but we had no facilities for making cultures He examined the contents of three abscesses in as many patients, and found as the essential bacteriologic cause the bacillus of typhoid in one and the ordinary pus microbes in the remaining two cases

The typhoid or so called metastatic abscesses are caused by the bacillus of typhoid fever or by pus microbes which find their way into the circulation through some infection atrium, especially the intestinal ulcers, as the result of a mixed infection I have no doubt that in some cases the colon bacillus finds its way into the general circulation and produces the same results The only case of bone and joint infection that came under my observation, and that could be brought in connection with the typhoid infection occurred in the case of a young soldier recovering from a severe attack of typhoid fever

Case 30 —William Fairweather, age 22, Company A, Twelfth Infantry, about one week after the surrender of Santiago, was attacked with fever which continued for three weeks He reached this camp with his regiment, emaciated to a skeleton, and extremely anemic A week ago, while moving about, he was attacked rather suddenly with a severe pain in the right sacro iliac synchondrosis and extending to the leg on the same side The pain in the leg subsided after a few days but increased in severity at the point where it first commenced The pain is of a dull, aching, throbbing character Slight swelling over and in the line of the joint Evening temperature one degree above normal No redness or edema of the skin September 6, the joint was punctured with the largest needle of an exploring syringe and a 5 per cent solution of carbolic acid was injected in different directions, so as to reach the infected tissues as far as possible No difficulty was met with in injecting three drachms of the solution The needle puncture was sealed with collodium and a pledget of cotton Marked improvement followed the intra articular and parenchymatous injection The pain and tenderness had nearly disappeared on the third day Under tonics and stimulants the general condition of the patient improved from day to day There is no reason to fear at this time that suppuration will take place

This case represents one of those rare complications of typhoid fever in which a joint becomes the seat of secondary infection during the latter stages of typhoid fever or during convalescence, in which the inflammatory process often results in great destruction of tissue without pus formation Whether or not the injection should be credited with having brought about the speedy cessation of active symptoms can not be decided, either way with any degree of positiveness I have learned to value the therapeutic effect of parenchymatous injections of carbolic acid in the treatment of chronic or subacute inflammation of a non tubercular inflammation, and I am inclined to attribute to it in this particular and similar cases positive curative properties, the evidence of which in this case appeared so shortly after it was made

Case 31 —C H Baker aged 22 Company F Second Massachusetts Infantry, was sick two months in Cuba with fever, malaria headache, anorexia, diarrhea, in consequence of which he became very weak Shortly after boarding the transport he became delirious and has been sick with typhoid fever for three weeks A week ago while convalescent he was attacked suddenly with violent pain in the right testicle which rapidly increased in size, reaching the dimensions of a small orange in the course of two days At that time, the temperature increased two degrees above normal On the third day after the attack, the swelling was hard, very sensitive to the touch, the skin red and glossy No chills Under applications of lead water and opium the pain has been somewhat mitigated and the swelling slightly diminished in size September 10, a week after the complication had set in, the patient was transferred to the surgical ward At this time deep seated fluctuation could be distinctly felt over the center of the swelling Less discoloration of the skin than a few days ago Swelling only about twice the size of the normal testicle The abscess appears to occupy the center of the testicle Under ether anesthesia the abscess cavity was opened at the most dependent point, and a counter opening two inches higher up made by tunnelling the tissues from within outward with a curved hemostatic forceps, and through drainage established The pus was of the consistence of cream and whitish in color No transudation into the tunica vaginalis The conditions revealed at the time of operation left no doubt regarding the parenchymatous central origin of the abscess Microscopic examination of the pus removed showed typhoid bacilli in great abundance as the exclusive bacteriologic cause of the suppurative orchitis The patient improved very rapidly after the operation, and was transferred in less than a week to one of the Boston city hospitals

Case 32 —L Gardner, age 38, Company A, Sixth Infantry, went through the Cuban campaign with two days' slight illness He lost flesh, but felt well until he came on the transport four weeks ago, when he was attacked with fever which proved to be typhoid complicated by malaria as shown by the erratic temperature curves Convalescence was preceded by inflammation of the left parotid gland Emaciation marked Spleen much enlarged The liver dulness extends from the sixth rib to an inch below the costal arch Lungs normal Heart sounds clear and distinct Pulse strong and regular Tongue red and glazed A week after the beginning of the attack, a large abscess had formed and fluctuation could be distinctly felt, extending from a level with the external meatus to near the angle of the jaw At that time, September 7, the patient was etherized, the abscess opened at the lowest and highest points, and through drainage established, a large quantity of thick purulent, curdy pus escaped The cavity was washed out with a 2 5 per cent carbolic solution and peroxid of hydrogen, and a large, moist, hot antiseptic compress applied Improvement followed at once and ended in a slow recovery without any interruptions

Case 33 —Patrick Collins, age 26, Eighth Infantry Company C, has been in the service one year About two weeks after the fight in Cuba was attacked with malaria, which was followed by typhoid The fever has persisted since attended by diarrhea and other symptoms indicating its nature While on the transport on his return he complained of a sense of soreness in the left parotid region, followed by swelling and redness Patient much emaciated and very feeble At the time the operation was performed, August 29, the swelling extended from the external ear to near the angle of the jaw, and deep seated fluctuation was distinct Incision, drainage, disinfection and after treatment the same as in the preceding case Owing to the marked weakness of the heart's action, the patient was given two ounces of whisky before he was placed under the influence of ether Alcoholic stimulants were administered in large and frequently repeated doses and acted very promptly in increasing the tone of the circulation and in building up the impaired nutrition The discharge from the abscess in this, as well as the other cases of abscess of the parotid following typhoid fever, was very slight after the evacuation of the abscess contents

Case 34 —Harold Robinson, age 28, Third Infantry, Company D, contracted typhoid fever in Cuba He is now in the third week of the fever and has been delirious most of the time The disease pursued almost from the beginning a very malignant course About five days ago a swelling was detected in the region of the right parotid gland, which increased very rapidly in size, involving the skin after two or three days The abscess ruptured on the fourth day into the external meatus, but evacuation was incomplete on account of the existence of several separate compartments in the abscess cavity, which were discovered at the time the operation was performed The abdomen is intensely tympanitic the skin of feet, legs and abdomen spotted with dark points of ecchymosis The condition of the patient was critical when the operation was performed, September 10 The operation had to be performed without an anesthetic and in his ward, as he was too feeble to justify his transfer to the surgical ward The impoverished condition of the blood made it necessary to make the incision only through the skin, completing the opening with hemostatic forceps Free tubular drainage was established and the abscess cavity was treated in the usual way Strychnia and alcoholic stimulants were administered freely, but the heart failed to respond and the patient died the next day Notwithstanding that the openings were made largely by the use of blunt instruments, free oozing of blood followed the operation, which may have contributed in hastening the fatal termination

Case 35 —Giles Potter, age 33, Second Massachusetts Infantry, had chills and fever while in Cuba, but was on duty continuously Was still weak and ill when he came on board the transport The parotid abscess began on transport He is very weak and emaciated, at times delirious, temperature indicates typhoid fever Conjunctivæ slightly jaundiced Pulse small and thready Spleen slightly enlarged The abscess was incised and drained without the use of an anesthetic, in its stead a large dose of whisky was given The pus in this case was of a green color Patient improved rapidly after the operation and is now on the way to convalescence

Case 36 —John Simpson, age 28, Troop K First Cavalry, was admitted to the general hospital August 25, suffering from typhoid fever, with a temperature gradually declining until September 4, when it rose suddenly from 99 4 to 102 and 103, dropping on the 8th to 99 On admission patient had very marked roseolar eruption on abdomen and limbs During the course of the fever numerous furuncles appeared on the forehead and back Delirium has been a prominent feature in the case almost from the beginning Directly following the sudden rise of temperature on September 4, soreness and swelling of the right submaxillary gland were noticed Today, September 10, a fluctuating swelling, the size of a small apple, marks the location and size of the abscess Operation without anesthetic Incision, counteropening, tubular drainage, irrigation with peroxid and carbolic solution, wet carbolic dressing Rapid improvement followed the operation and the patient is now, September 13, fairly convalescent, abscess nearly healed

The parotid gland, of all glandular organs is the most frequent seat of secondary infection in typhoid fever For reasons that remain unexplained the submaxillary is seldom involved, and the sublingual is still more rarely affected The infective process begins in the parenchyma of the salivary gland but extends rapidly to the capsule and the surrounding connective tissue, leading to a phlegmonous process which in four or five days, as a rule, terminates in a well marked abscess with the gland as a central point The physician must be on the alert in such cases, and resort to the use of the knife in a most cautious manner as soon as fluctuation can be detected It is advisable to establish through drainage for the purpose of securing free evacuation and thorough disinfection of the interior of the abscess cavity The openings should be made by cutting only the skin and underlying fascia with the knife, completing them by tunnelling the remaining tissues with a curved hemostatic forceps Dry dressings should not be employed in such cases, nothing is more grateful to the patient and more efficient in the after treatment than the application of a moist, hot, antiseptic compress covered with oiled silk to retain heat and moisture The safest and most efficient solution for this purpose is a saturated solution of acetate of aluminium, but when this can not be secured, a 2 5 per cent solution of carbolic acid or a saturated solution of boracic acid answer as excellent substitutes

In the next case the clinical history is very defective, and it is impossible to say with any degree of certainty whether or not the parotid abscesses followed in the course of typhoid fever, or whether they were external manifestations of a general septic process that developed independently of that disease

Case 37 —Austin Dunlap, age 19, Company H, Third Infantry, was taken suddenly ill in Tampa about July 1, with pain in the back and joints and nausea The disease was diagnosticated at the time as malaria He was sent to quarters, and after four days returned to duty On arrival at this camp, August 14 had three severe chills during the first twenty four hours and has been very sick since When admitted to the surgical ward with bilateral suppurative parotitis and large bedsores, he was reduced to a skeleton Extensive herpes labialis which near the left angle of the mouth have caused ulceration, abscess over elbow joint Pulse rapid and very small, temperature irregular When first admitted the case was regarded as a forlorn one and whiskey was given in ounce doses hourly The swelling in the parotid region, on both sides, was hard and very sensitive to the touch Credé's silver ointment and hot antiseptic compresses constituted the local treatment Five days later distinct fluctuation could be detected and one of the parotid abscesses was incised and free tubular drainage effected Owing to his critical condition the operations had to be performed without an anesthetic The next day, September 10, the opposite abscess was treated in the same manner The patient has been placed on a water bed and was restless and most of the time delirious No evidences of metastasis in any of the internal organs Under the stimulating treatment he rallied promptly and at the present time, September 13, his mind is clear and the temperature normal Discharge from abscess cavities slight The drains are shortened from time to time to permit early definitive healing of the abscesses

I am confident that early operative treatment and the heroic employment of alcoholic stimulants have been the principal means in saving the life of this patient

Case 39 —Corporal George F Shilling, age 18, Company G, First D C Volunteers Enormous typhoid abscess of arm Family history negative Health excellent before he went to Cuba On August 15 reported sick at the hospital Had been feeling ill for some days He has been delirious most of the time since admission to the General Hospital here The temperature has been on an average 103 degrees F, with daily variation of a degree and a half from August 19 to September 4 Since latter date the temperature at no time has been over 101 degrees F The pulse is small, rapid and weak, tongue dry, brown and fissured On arriving here on transport there were five large bedsores on back and numerous small abscesses of the skin He was placed at once upon a water bed, but the bedsores continued to still further undermine the skin Two days ago when the nurse was dressing the bedsores, she discovered a swelling of the right arm on the outer edge of the biceps muscle This has rapidly increased in size and now presents itself as an enormous abscess extending from the shoulder to the tendon of the biceps muscle Fluctuation is most distinct over the outer aspect of the arm On palpation a crackling sensation is felt and on percussion the swelling was distinctly tympanitic The presence of gas in the abscess cavity could not be doubted September 12 the patient was almost pulseless, lips cyanotic, respiration shallow, and marked twitching of the muscles of the upper extremities In the afternoon the abscess was cautiously opened above and below and a rubber drainage tube drawn through A large quantity of an offensive gas and creamy pus was evacuated The abscess cavity was freely irrigated with peroxid of hydrogen and 2 5 per cent of carbolic solution and the moist, hot antiseptic compress applied In place of an anesthetic the patient was given an ounce of whiskey which was to be repeated hourly Hot water bags were applied to relieve the embarrassed peripheral circulation Contrary to our expectations, the patient rallied under this treatment and presented a much more encouraging condition the next morning, when it was reported that the temperature was nearly normal mind clear and the pulse full and strong Microscopic examination of the pus by Dr Ewing revealed 1, many cocci resembling staphyloccus pyogenes, 2, a few large capsulated cocci, 3, a few fine slender bacilli staining faintly with methylene blue There is nothing that resembles the bacillus aerogenes capsulatus The patient is in a fair way to recovery (September 17)

Case 10 —Fred Angier, age 23, First Cavalry, Troop I, is under treatment for typhoid fever probably during the third week of his illness Patient is delirious and it is impossible to obtain reliable information as to duration of his sickness Very recently the right eye became affected by an acute inflammatory process which appears to involve all of the tissues of the organ The eyelids are swollen red and somewhat edematous The edema extends over the whole malar region Exophthalmus well marked Pupil contracted and immovable Conjunctiva in a state of catarrhal inflammation Hypopion Sent to the New York Hospital August 30, for treatment by specialist of the eye complication This is the only case of secondary infection of eye of a typhoid character that was observed in the camp It was a well marked case of panophthalmitis and if the patient recovers it will be with the loss of the affected organ

(*To be continued*)

Let us have a Department of Public Health!

THE SANTIAGO CAMPAIGN

MEDICAL EXPERIENCE WITH THE RETURNED SOLDIERS OF THE DISTRICT OF COLUMBIA U S V REGIMENT

BY LOUIS KOLIPINSKI, M D

WASHINGTON D C

The following medical histories of soldiers of the District of Columbia U S V Regiment which were gathered whilst treating these cases after their return to Washington D C, may be of interest for several reasons The testimony shows with uniformity and consistency that the health of these men remained good at Camp Alger, at Chickamauga, at Tampa, on the voyage to Cuba and in the eight days spent in the trenches in front of Santiago that they first became sick after having been encamped on San Juan hill four or five days or more and that there they were the victims of malarial fever—intermittent or remittent—accompanied or followed by diarrhea, that none of them contracted typhoid fever in Cuba, and that this infection occurred on the transports returning them to the United States or more probably after their arrival at Montauk The following itinerary—furnished by the commanding officer, Colonel Harries—is necessary for comparison with the records of the cases

Regiment mustered in May 17, 1898, left Washington (Camp Alger) May 21, left Chickamauga May 23, arrived at Tampa June 1, embarked for Cuba July 2 landed July 10, to the front July 11 in the trenches to July 19, on San Juan hill July 19, embarked for Montauk Second and third Battalions August 19 First Battalion August 23 arrived at Montauk, Second and Third Battalions, August 26 First Battalion, August 28, regiment left for Washington, D C September 8, arrived September 9

Case 1 —A S, Company B, First Battalion At Camp Alger, Chickamauga Tampa, and in the trenches in front of Santiago was in good health First became sick with a fever on the fourth day of the encampment on San Juan hill Was not fit for duty whilst remaining there His fever was accompanied with a severe diarrhea lasting ten days On the transport returning was very weak for want of food On the second day of the stay at Montauk had a chill and fever Has not been sick before since early childhood and has not had typhoid fever

On examination Sept 16 1898, midday temperature 102 degrees F, exquisite malarial anemia splenic enlargement Ten grains of quinin muriate daily September 17, temperature normal, feels much better September 23, anemia almost gone

Case 2 —F, 25 years, Company A, First Battalion Has not had typhoid fever Was sick one day only at Tampa on account of diarrhea Next on the tenth day of the encampment on San Juan hill, fever and diarrhea Was off duty one day The diarrhea continued after his fever had disappeared Drank the unboiled water from the San Juan river At Montauk diarrhea and fever for three days Marched in the review of the regiment on its return home Sept 20 1898 E T, 102 degrees F, much sweating diarrhea, spleen enlarged and tender Appearance Marked malarial anemia Ten grains quinin muriate daily September 21 afternoon normal temperature diarrhea continues He soon recovered

Case 3 —A H, Company F, First Battalion At Tampa drank boiled water, had there a mild diarrhea at San Juan hill occasionally fever at night Had from ten to fifteen diarrheic movements daily drank muddy, unboiled water At Montauk remained well except some fever for a single night H had typhoid fever under my care in 1893 He came back looking tanned and well—a contrast to the others He took 10 grains quinin muriate as a prophylactic beginning this on the fifteenth of August September 18 and 19, light fever quinin muriate September 21, is well his evening temperature sub normal

Case 4 —M A G Company A First Battalion At Tampa fever and diarrhea one week before they left Gained in weight at Tampa On the transport and in the trenches his health was good The fourth or fifth day on San Juan hill had chills, fever and diarrhea for thirteen days The same symptoms continued on the transport homeward He ate nothing Remained at Montauk two days and arrived home September 1 Marked malarial anemia, is starved, diarrhea, undigested stools, intestinal cramps Spleen enlarged and tender Morning temperature 102 degrees F, quinin muriate and copper sulphate September 3, temperature normal, diarrhea arrested Had four febrile relapses in September and part of October In the second relapse severe splenic pain and tenderness simulating pleurisy With all this, rapid recovery of color and weight Never has had typhoid fever

Case 5 —Sergeant L, Company E, Second Battalion, became sick, for the first time, on the seventh day, on San Juan Hill, vomiting, diarrhea, fever—no chill, fever lasted three days, was off duty two days The diarrhea ceased at the end of one day Drank unboiled water At Montauk had fever, headache, and pain in the back Was sick four days, but not in the hospital Marched in the review of the regiment on its return

September 19 comes to be treated for malaria Limp feeling, headache, loose bowels, had fever yesterday, today, normal temperature Looks thin, skin brown, not anemic Original weight 168 pounds, has lost 25 pounds Spleen not enlarged Quinin and copper, rapid recovery

Case 6 —R, Company K, Second Battalion First taken sick on the third or fourth day, on San Juan Hill In hospital two days, daily chill for three or four days, symptoms recurring returned to hospital, had chills followed by diarrhea lasting ten days Drank boiled spring water At Montauk had a cold in the head Was too sick to march in the review on account of fever and cold in the head Did military duty at Montauk Has not had typhoid fever Was never sick before entering army

September 14, heavy chill, temperature, 104F September 15, temperature normal Exquisite malarial anemia Spleen slightly enlarged Rapid recovery

Case 7 —Sergeant G J M, Second Battalion, Company K, seventh day on San Juan Hill had fever for six or seven days—mostly at night On the fourth day of the fever, diarrhea, lasting one week, occasional recurrence of fever Arrived in Washington August 20 Is much reduced, looks like many of the others, sad and pathetic Has diarrhea Quinin and copper, regulated diet, rapid recovery In Cuba drank river water, later, boiled water Has not had typhoid fever Did not take quinin as a prophylactic

Case 8 —Corporal J A O'N, Company A, First Battalion At Tampa some diarrhea On the transport, outward, was sick one day On San Juan Hill had malarial fever for three or four days with a mild diarrhea Drank unboiled water Marched in the review September 9

September 10 diagnosis typhoid fever It ran a mild course, one relapse without symptoms becoming intensified Recovered in twenty four days

Case 9 —A F N, Company A, First Battalion The tenth day on Juan Hill fever for five or six days and diarrhea for three or four days Second attack two weeks later Drank unboiled water from the San Juan river and from a spring Was two days at Montauk, while there had fever September 5, typhoid fever, mild, one relapse, also mild Recovered October 7

Case 10 —W S, Company A, First Battalion Tenth day on San Juan Hill, tertian intermittent, alternating with diarrhea, and lasting two or three weeks Sick with fever and diarrhea on the transport homeward Was on the sick list at Montauk Marched in the review September 9

September 12, typhoid fever, mild form Recovered October 16

Case 11 —Corporal B, Company L, Second Battalion First sick the second day on San Juan Hill Fever, followed by diarrhea, from four to six movements daily This continued, but ceased spontaneously the second day on the transport homeward Drank unboiled spring water His diarrhea he said was endemic, and also amongst the Cubans On the transport he was well and did double duty His present fever developed at Montauk on the fourth or fifth day Was able to march in the review of the regiment in this city September 10, evening temperature 99F Quinin has no effect

September 12 typhoid fever begins and runs a mild course of three or four weeks In this time one relapse, but symptoms not accentuated

Case 12 —Sergeant F A C, Company M, Third Battalion Diarrhea on transport to Cuba and in the trenches, indisposed one day On San Juan Hill diarrhea returned and lasted one week At the end of second week there, fever of five or six days duration Then returned to duty On transport home bound, sick two days with intermittent fever Arrived at Montauk well Five or six days later, fever and diarrhea, lasting three days Arriving in Washington, was not able to stand or walk alone Examined on the second day of his return Morning temperature 103F Pronounced picture of starvation and collapse Fully developed typhoid fever of severe type, no relapse Recovered second week in October

---

THE WORK OF THE ARMY MEDICAL DEPARTMENT DURING THE SPANISH WAR

Abridged from the Annual Report of the Surgeon General

MEDICAL OFFICERS

The number of medical officers, 192, allowed by law, to the army is inadequate in time of peace The insufficiency in time of war was met by the assignment of over 650 contract surgeons under the provision of the Act approved May 12, 1898 All volunteer regiments had three medical officers appointed by the Governors of States Volunteer surgeons to fill the staff positions authorized by the Act approved April 22, 1898, were appointed by the President Eight corps surgeons with the rank of lieutenant colonel and 110 division and brigade surgeons with the rank of major, 5 of the former and 46 of the latter positions were filled by the appointment of officers of the Army Medical Department The President also appointed three medical officers for each of the regiments of U S volunteer infantry, cavalry and engineers The very small proportion of medical officers having experience of a military character impaired the efficiency of the department at the outset, but many of the staff surgeons from civil life showed great aptitude for the service, and speedily became of value as administrative and sanitary officers

HOSPITAL CORPS

No provision was made for hospital corps men for the volunteer troops except that which empowered the Secretary of War (Act March 1, 1897,) to enlist as many privates of the hospital corps as the service may require To provide this corps with the necessary number of men, recruiting officers were urged to secure suitable medical officers to effect the transfer of men from the line of the Army General Orders No 58, Headquarters of the Army, A G O, May 31, 1898, authorized the transfer of men from the line of the volunteers to the hospital corps of the regular Army upon the recommendation of the chief surgeon, and suspended the provisions of army regulations governing the hospital corps so far as they were inapplicable in time of war and with troops in the field Commanders of corps and of independent divisions and brigades were charged with the full control of the transfer from the line, the enlistment and discharge of members of the hospital corps, the detail of acting hospital stewards and the appointment of stewards, the last limited by subsequent orders to ten stewards for an army corps in addition to those autherized for the volunteer regiments The number of men enlisted and transferred during the war was approximately 6000

CONTRACT NURSES

The want of a sufficient body of trained hospital corps men necessitated the detail of enlisted men from the regiments for hospital duty in several of the camps, and the employment of trained nurses at the general hospitals Foreseeing the necessity for a large force of the latter I applied to Congress, April 28, 1898, for authority to employ by contract as many nurses as might be required during the war This was promptly granted Over 1700 female nurses have been employed, at first at the general hospitals and later at the field division hospitals, when it became evident that the field service purposes for which the latter had been originated would have to give place to the imperative need of caring for the many sick men coming from the regimental camps

MEDICAL AND HOSPITAL SUPPLIES

Immediately upon the declaration of war, April 21, steps were taken to obtain medical supplies for the new volunteer army Orders were given and the manufacture expedited with the utmost dispatch On May 3, foreseeing that it would be impossible to have ready for issue to the volunteer regiments as soon as they were mustered in, the necessary articles of field equipment I telegraphed the Governors of the several States for authority to use the medical equipment of the National Guard in the service of the State until the Army medical supplies were ready for issue Most of the Governors who had field equipment responded promptly and satisfactorily, but unfortunately many of the State medical department had no such equipment Meanwhile the officers in charge of the medical supply depots were directed to make arrangements so that supplies could be immediately obtained for 100,000 men for six months

A field supply table was prepared and approved by the Secretary of War, May 9, 1898 It was intended to provide for the needs of commands in active service where only a limited supply of articles could be carried, owing to the necessity of restricting transportation But as soon as it was evident that the troops were likely to be retained in camps of instruction, notification was given that articles on the regular supply table could also be obtained

To provide temporarily for volunteer regiments, supplies of medicines, instruments, hospital stores, stationery and miscellaneous articles, according to a prescribed list and packed in convenient boxes, were prepared at the supply depots An important article to be provided was the first aid packet, containing antiseptic dressings for immediate use in emergencies and intended to be carried by each individual soldier These were promptly and liberally supplied Whenever notice was received from the Adjutant General's office that commands were to be moved or camps formed, I endeavored to anticipate the wants of the troops by telegraphing to the officer in charge of the nearest supply depot to forward supplies for the stated number of men according to the field supply table

Requests from the medical officers for supplies and orders based thereon transmitted to the supply depots were largely by telegraph, and orders were given that when the supplies were needed promptly they should be forwarded by express to their destination When a medical officer desired to purchase medical and other supplies for use in emergencies authority to do so was always granted

The medical supply depot in New York supplied the posts in New England, the Middle States and along the Atlantic Coast, including Florida, and the troops that have been sent to and are now serving in Cuba and Porto Rico The depot at St Louis, Mo, supplied the States of the Mississippi Valley and the region east of the Rocky Mountains, including Texas, the large camp at Chickamauga and the camps formed at Knoxville, Lexington, Anniston, Huntsville, etc To provide for the large aggregation of troops at Chickamauga, Ga, a sub depot, drawing its supplies from St Louis, was organized The officers in charge of the depots at New York and St Louis were directed, July 8, to keep in stock 1000 iron beds or cots with a full supply of bedding ready for immediate use The distance of San Francisco from the center of the Government was so considerable that the officer in charge of that depot was necessarily given large discretion in the purchase of supplies and the expenditure of funds

RAILROAD AMBULANCE TRAIN

On June 16 a railroad ambulance train, consisting of ten tourist sleepers a dining car, a private car and a combination car was equipped for service and placed under the command of Major Charles Richard, surgeon, U S A One assistant surgeon, two stewards, twenty privates of the hospital corps and three civilian employes were assigned to him for service The train was amply provided with all the medicines, hospital stores and comforts required for the patients to be transported

HOSPITAL SHIPS

The Relief—On April 15, 1898, I applied for a ship to be used as a hospital ship On May 18, by direction of the President, the *John Englis* was purchased and the quartermaster's department took charge of her to prepare her for the special service required Major George H Torney surgeon U S A, was placed in command of the ship Specific instructions were sent to him to provide everything needful, so that there might be no delay attributable to the medical department, and these instructions were complied with to the letter The *Relief*, however, was unable to sail from New York until July 2 She arrived at Siboney July 7 where she received many of the wounded from the attack on Santiago

The Missouri—On July 1 1898 Mr B N Baker, President of the Atlantic Transport Line Baltimore, Md, tendered the steamship *Missouri*, with her captain and crew to the Government as a hospital ship Ten days or two weeks was estimated as needful to permit of making the necessary alterations and providing the vessel with a steam laundry, steam sterilizing apparatus and ice and carbonated plants but it was not until August 23 that the ship was reported ready to sail and even then a good deal of work had to be done on board during a stormy passage to Santiago

The Olivette—This vessel was a steamship which had been doing service as a water boat for the fleet of transports when Lieutenant Colonel Pope, chief surgeon of the Fifth Army corps, selected her for use as a hospital ship during the voyage from Tampa to Santiago The equipment of one of the field division hospitals of the corps was used in outfitting her The *Olivette* answered her extemporized purpose excellently

THE HEALTH OF THE TROOPS

In my opinion, the reduction of the age limit from 21 to 18 years and the haste with which the volunteer regiments were organized and mustered into the service were responsible for much of the sickness which was reported in the early days of their camp life All military experience shows that young men under 21 years break down readily under the strain of war service, and every regiment had many of these youths in its ranks Medical examiners were appointed to testify to the physical qualifications of each man before acceptance, but notwithstanding this, which at the time was characterized in the press as a very rigorous procedure, so many were afterward found on the sick lists of the camps unfit for service, from causes existing prior to election, that special arrangements had to be made for their discharge

Soon after the newly raised levies were aggregated in large camps' sickness began to increase progressively from causes that were so general in their operation that scarcely a regiment escaped from their harmful influence These causes may largely be referred to ignorance on the part of the officers of the principles of camp sanitation and of their duties and responsibilities as regards the welfare of the enlisted men in their commands Medical officers, as a rule, were also without experience in the sanitation of camps and the prevention of disease among troops The few who knew what should be done were insufficient to control the sanitary situation in the large aggregations of men hastily gathered together Officers and men in these camps were rife for war, and drill, parades, practice marches and military camp duties occupied the whole of their time and energies Considerations of domestic economy and sanitation in the companies and regiments were not given proper attention, and men who were being taught to meet the enemy in battle succumbed to the hardships and insanitary conditions of life in their camps of instruction

The sites of certain of the camps have been instanced in the newspapers as the cause of the sickness which was developed in them, but a review of the whole situation shows that it was not the site, but the manner of its occupation which must be held responsible for the general spread of disease among the troops On April 25, 1898, foreseeing the likelihood of insanitary conditions in the camps of our newly raised troops and with the view of preventing them, I issued Circular No 1 from this office, impressing upon the medical officers their responsibility in sanitary matters and the necessity for a strict sanitary police, particularly in the care of the sinks and in the preservation of the camp area from contamination But the density of the military population on the area of these contracted camps prevented the possibility of good sanitary condition Camps of this character may be occupied for a week or two without serious results, as in the case of national guardsmen out for ten days' field practice during the summer, but their continued occupation will inevitably result in the breaking down of the command by diarrhea, dysentery and typhoid fever

Practically nothing was done to make the men comfortable or to remedy the insanitary conditions until these were brought to the attention of the Secretary of War by inspectors sent out by special orders from the War Department Then the camps held for so long were abandoned, but not before the manifestations of typhoid infection were rife in them New sites were carefully selected, regimental camps were expanded company tentage increased and board flooring provided Then, for the first time, the troops went into camps suitable for continued occupation

One prominent cause of the increase of sickness in the early camps has been commented upon by only a few of our medical officers These cite the prevalence of drunkenness and of venereal diseases due to the facilities and temptations afforded by the proximity of cities to the larger camps They hold that if the systems of the men had not been weakened by dissipation they would not have succumbed so readily to the other influences which affected them Malarial fevers added to the sick lists of camps in Florida, and of southern regiments in Georgia and Virginia It was however typhoid fever which broke down the strength of the commands generally the outbreak becoming distinctly manifest in July Sporadic cases appeared in most of the cases in May and June the cases having been brought in many instances from the State camps In fact, some regiments as the Fifteenth Minnesota suffered more from the disease at their State rendezvous than any of the regiments in the large Field camps A few of the regi mental camps in the latter may be said to have escaped visitation The sanitary conditions affecting the commands in the various camps have been studied in connection with the prevalence of typhoid fever among the men by a board of medical officers consisting of Majors Reed, Vaughan and Shakespeare, but the results of the investigation of this board have not as yet been reported in full It appears to me, however, from a general review of the sanitary reports already filed, that the prevalence of the disease was proportioned to the insanitary camp conditions which I have referred to My Circular No 1, already cited, was intended to bring the danger from this fever to the notice of medical officers with the view of obviating it The probability of its communication to soldiers in camp through the agency of flies was pointed out as a reason for insisting on a sanitary police of the strictest character

It is well known to the medical profession that this fever is propagated by a contaminated water supply, and it is not recognized that the great prevalence of this disease in an aggravated form in the camps of the Civil War was due to the use of surface and shallow well waters infected by typhoid excreta To prevent transmission by the water supply, I recommended the use of boiled and filtered water when a pure spring supply could not be obtained, and to enable an efficient filtration of suspected waters to be made, field filters of approved construction were issued on my recommendation by the quartermaster's department

CARE OF THE SICK AND WOUNDED

As soon as the regiments were organized into brigades and divisions preparatory to active service it became the duty of each chief surgeon of an army corps to see that the medical department of his command was organized to meet the casualties of battle The object of the concentration of the troops was to accustom the regiments to operations in which they constituted the units of a higher organization The experience of the Civil War demonstrated that for efficient service in an active campaign the medical department also required a higher organization Circular No 3, from this office, dated May 18, 1898, in specifying the duties of the various medical officers in an army corps, indicated the character of the organization to be adopted The seriously sick were to be treated in division field hospitals (unless their transfer to a general hospital was advisable) under the care of the most experienced physicians and able surgeons on duty with each division Medical officers left on duty with their regiments were to exercise sanitary supervision over the well men and determine whether a soldier reporting himself sick should be sent to hospital or remain as a trivial case under treatment in quarters This consolidation of the medical force by divisions, involving as it did, the breaking up of the regimental hospitals, met with a strong opposition from regimental medical officers, particularly from those who were not detailed for special service at the division hospitals Regimental commanders also were in many instances opposed to it, forgetful that the object of the medical department as of the line, was to get into training for field service Similar objections were raised in 1862 and 1863 to the establishment of the division hospitals, but the Civil War lasted long enough to demonstrate the superiority of this system

THE FIFTH ARMY CORPS

Long before this corps embarked for Cuba its field hospitals were in condition for efficient service Subsequent events, however, rendered valueless these preparations of the medical department When the command embarked on the transport vessels, the baggage wagons and mules were left behind The ambulance trains of all the divisions with a large part of the outfit of each of the hospitals were also left behind Three ambulance wagons were taken apart and stored on one of the vessels These did excellent service at San Juan and El Caney Ten of the ambulances of the Third or Reserve Divisional Hospital were subsequently shipped to Cuba, where they arrived July 2, and were of value in moving the sick and wounded to the hospital at Siboney and to the hospital ships and transports Of the property and supplies carried to Cuba a portion was not available for service at the time it was most needed, to wit on July 1, 2 and 3, when the wounded from El Caney and San Juan were coming from the front for care and treatment This was because, in general no opportunity was afforded to land the medical property Earnest efforts were made by medical officers to have supplies at the front with troops Some having succeeded in getting their medicine chests and other articles of medical property ashore, had these carried forward on litters by hospital corps men to the camps near Sevilla, while others turned their private mounts into pack horses for this purpose During and after the battle at El Caney and San Juan there was an insufficiency of tents, cots, bedding and medicines due to the causes stated, but all the hospitals were well equipped for surgical work

After the capitulation of Santiago, the troops at the front broke down rapidly under the fatigues they had undergone and the malarial influences to which they were exposed, but by this time an ample supply of tents, furniture, bedding, clothing and medical stores had reached Siboney, together with a corps of trained nurses and a force of surgeons, those sent to duty at the yellow fever hospital being immune to that disease Meanwhile, to relieve the pressure on the field hospitals, such convalescents and sick as could bear the journey home were sent to the United States on transport vessels This was an emergency measure to relieve the hospitals at Siboney and permit of the transfer to them of the men who were sick in regimental camps

The transfer of troops from Santiago to Montauk Point was also an emergency measure, and the great responsibility of excluding yellow fever infection from every transport rested on the medical officers who had charge of the embarkation Had they failed in this duty the effect would have been disastrous during the voyage to the men confined on shipboard, and the risk of importing the disease into this country would have been greatly increased

In view of the necessity for the return of the troops of the Fifth Army Corps from Santiago, Cuba, preparations were made for encamping them at Montauk Point, Long Island These included the establishment of temporary tent hospitals, not only for the treatment of the large number of sick brought by each command from Cuba, but for the isolation and treatment of those from transports lying under the suspicion of yellow fever infection

The difficulties in the way of administering the affairs of the detention hospital were very great, owing to the rapidity with which the transports followed each other in their arrival As many as four reached the Point on some days from August 13 to 31, most of them bringing sick requiring detention for medical observation, but the sick men were as well cared for and as comfortable in their cots here as afterward, when transferred to the general hospital at Montauk Point There was an excellent steam disinfecting plant with a formaldehyde chamber attached The laundry work was done at a steam laundry near the hospital

The temporary hospital, which was locally known as the general hospital, Montauk Point, consisted of tent pavilions containing 1672 cots Its personnel consisted of 40 medical men, 8 stewards, 10 acting stewards, 130 privates of the hospital corps 15 cooks, and 50 male nurses and an average of 200 female nurses, one half of whom were Sisters of Charity Supplies of all kinds were amply provided

It is needless to refer at this time to the complaints of starvation which appeared almost daily in the newspapers during the occupation of Camp Wikoff, for it is now generally understood that the weakness, prostration, anemia and emaciation of so many of the troops were the results of malarial, typhoid, and yellow fever, from which the Army suffered as a consequence of its exposure to the climatic influences and local infections of Santiago and its neighborhood, pending and subsequent to the surrender of the city

TROOPS IN THE HOME CAMPS

The method of hospital organization in these camps was practically the same, and there was much similarity in the conditions affecting them and correspondingly in their history Regiments reported in but few instances with the material and supplies for their medical care, but they brought sick men with them and these required immediate care Provision had to be made for division hospitals in view of the immediate necessity The difficulties in the way of the contemporaneous accomplishment of these two objects were great, and they were greatly augmented by the inexperience of a majority of the regimental medical officers and of many of the chief surgeons which prevented them from seeing beyond the immediate necessity The sick had to be cared for, and to this end medicines and other things had to be procured Relief societies offered assistance, and this was eagerly accepted by many of these medical officers, not alone for delicacies or luxuries not otherwise provided for, but for supply table articles which could have been had from the medical purveyors in their camps, or by telegraphic requisition on the Surgeon General It was easier to accept what was so freely offered than to learn how to obtain the articles from the proper source To explain their prompt acceptance of this assistance these officers referred to the red tape of the War Department methods, and the insinuation that the said methods were beyond the comprehension of the ordinary intellect was accepted by the sensational press as an explanation in full

Meanwhile, chief surgeons of corps and divisions began the organization and equipment of their field division hospitals and ambulance companies, but they were met at the outset by the apparent impossibility of securing men for service as cooks, nurses, litter bearers, ambulance drivers, teamsters, etc. The hospital corps of the regular Army could not supply these men, because recruiting for this corps progressed slowly. The popular tendency to volunteer led men away from the regular recruiting offices. When teamsters from the volunteer regiments to the regular hospital corps were authorized, the men did not care to leave their local connections for service in the Army at large, as regular soldiers. The transfers so much desired by the medical department to enable its organization were not regarded favorably by line officers, for although every line officer will probably acknowledge as a general principle that only the most intelligent and capable men should be employed to care for the sick and wounded, he is not likely to act on this general principle when it is a question of withdrawing for such service the most intelligent and capable men of his own company or regiment.

The division hospitals of the army corps were usually established in the immediate neighborhood of the regimental camps of the divisions. The pavilions were arranged in various ways according to the configuration of the area available as a site, but in general there was a tendency to crowd the area. Surgeons in charge recognized that a tent should not be occupied by more than six patients, but sometimes this number was exceeded temporarily while waiting an increase of tentage. As a rule, the hospitals were kept in campaigning condition, that is, the tents were neither framed nor floored, until the increased prevalence of typhoid fever attracted attention to their crowded condition, when the object of their existence became suddenly changed from a school for field service to a hospital for the treatment of a local outbreak of disease.

Special diet kitchens, under the management of capable individuals, were opened at most of the hospitals. Money for this purpose was sent to them by me from funds contributed and placed at my disposal. Money was also sent directly by individuals and representatives of aid societies, and the Red Cross committees supplied ice and milk, chicken, eggs, lemons, etc. Pajamas, night shirts and other articles of hospital clothing were also provided by the Red Cross and other aid societies. Subsequently the order authorizing the commutation of the sick soldiers' ration at 60 cents rendered these hospitals wholly independent of outside assistance.

About July 20 the troops for the invasion of Porto Rico embarked and sailed. The field hospital accommodation with this expeditionary force was ample and the supplies abundant.

TROOPS ON THE PACIFIC COAST

The troops on the Pacific Coast were concentrated mostly at San Francisco, Cal. Eighteen thousand troops were dispatched to the Philippine Islands. They were carried on twenty transport steamers, the first expedition sailing May 25. Each steamship, before being accepted by the government, was inspected by a board of medical officers, and in each instance the vessel was thoroughly disinfected before the troops went on board. The precautions taken to secure a good sanitary condition of the vessels prior to embarkation and the sanitary supervision exercised over the men during their long voyage must be credited with the excellent condition in which the troops arrived at Manila.

The want of hospital corps men was the main cause of the failure of chief surgeons to establish their division hospitals promptly. Instead of organizing for field service, their time was occupied and their energies spent in endeavoring to procure the necessary men by enlistment or transfer. After a time, when sickness invaded the camps and the division hospitals became filled, operations for field service had to give place to the immediate necessity of caring for the sick. The division hospitals became expanded, as at Siboney and Tampa, into base hospitals with increased needs and increased responsibilities. To these I sent with the utmost dispatch physicians and surgeons under contract, to relieve the details from the regiments who were temporarily acting as hospital corps men. At Camp George H. Thomas, Ga., the expansions of the division hospitals, under the conditions brought about by the typhoid invasion of the camps, became officially recognized as general hospitals and were promptly provided by me with the best available medical service, with trained nurses, with all permissible medical and hospital supplies and with funds for special purchases. The altered conditions under which the division hospitals were operating were immediately recognized by the chief surgeon of the Fifth Army Corps at Santiago, on the break down of that corps after the surrender of the city and every effort on the part of his medical officers to care for their sick in regimental hospitals was encouraged by giving them every available facility. Similarly, in other camps, regimental hospitals were in many instances equipped to meet the necessities of the occasion.

GENERAL HOSPITALS

Up to September 30, eleven general hospitals were established and fully manned and equipped. These had a capacity of nearly 7000 beds. At the same time certain post hospitals having good accommodations were used for the treatment of army cases generally without alteration of their official status as post hospitals. Those, for instance, at Forts Columbus, Hamilton and Wadsworth, N. Y., and Vancouver Barracks, Wash., on the Pacific coast were expanded in this manner. The vacant beds in the hospitals of the marine hospital service of the Treasury Department were placed at my disposal and the civil hospitals of the country were ready on call to receive and care for the sick and wounded soldiers. These offers of hospital accommodations and medical care were accepted by me in many instances, particularly in New York, Boston, Philadelphia and Providence, to relieve the tent hospitals at Montauk Point, when crowded by the rapid transfer of sick from Santiago.

THE MEDICAL STATISTICS OF THE WAR

The work of gathering up the records of sickness of the various commands in service during the war has been one of great difficulty. Volunteer medical officers were ignorant of the methods of keeping the records, and many failed to appreciate the importance of what was frequently regarded as "mere paper work," which had no practical bearing on the welfare of their men. Nevertheless their work in this regard must be considered as satisfactory when compared with that of the volunteer medical officers of the War of the Rebellion.

My report presents tablulations compiled from monthly reports of sick and wounded received from May to September inclusive, and representing a strength present of 167,168 men. These give full particulars of 1715 deaths[1] of which number 640 were occasioned by typhoid fever, 97 by malarial fevers and 393 by diarrhea and dysentery. The death rates for May and June—.46 and .70—were not in excess of those of the Army in time of peace. In July the rate became somewhat higher than that of an annual rate of 25.80 per thousand living. In August it became excessive, 4.08 for the month, equal to an annual rate of 48.96 per thousand. In September, the influence of the energetic measures taken, in July and August, to improve the health of the Army becomes manifest in the falling of the death rate to 2.45, or the equivalent of an annual rate of 29.40. The same progression to an acme in August, with a sudden fall in September, is seen in the various ratios given under the specific titles, typhoid fever, malarial fever, and diarrheal diseases. This is exceedingly gratifying and must be credited, as stated, to the sanitary measures adopted, for our experiénce in the Civil War demonstrates that in the absence of these measures the high ratio of August would have been continued for many months to come.

I submit also tables of absolute numbers and of ratios by which the incidence of sickness and mortality of the regular and volunteer troops may be contrasted. From these it will be seen that the exposures of the regular troops during the Santiago campaign gave them from June to September a higher death rate than the volunteers, and that the rate of the latter during August, the month of maximum mortality, was 3.62 as compared with 5.83 among the regular troops.

VOLUNTEER RELIEF WORK

My guiding principle throughout the war has been that relief when needed should be promptly accepted without reference to the source from which it came. The relief afforded by the National Red Cross at Siboney was promptly accepted by the surgeons on the spot, but it is evident that it was entirely inadequate to meet the emergency. This association has had full authority to send agents and supplies to all of our camps since June 9, 1898, and it has contributed supplies of various kinds in a most liberal manner for the use of our field hospitals. Other organizations which have rendered very valuable service are the National Relief Commission having its headquarters in Philadelphia and the Massachusetts Volunteer Aid Association with headquarters in Boston. Both these organizations fitted out hospital ships which were placed at my service for the transportation of our sick from Porto Rico and I take pleasure in testifying to the valuable services rendered by the yacht *May*, of the National Relief Commission and the hospital ship *Bay State* of the Massachusetts Volunteer Association.

---

[1] Reports to the Adjutant General to Sept [illegible] died of wounds [illegible] 000 men.

SPECIAL FUND

Sums of money varying from 33 cents, sent by Master Oliver S Whittaker of Detroit, Mich , to $5000, by Mr Cleveland H Dodge, chairman of the Supply Committee, National Red Cross Society, have been sent to me to be used according to my discretion for the benefit of our sick and wounded soldiers In all I have received $24,244 94 Among the contributors have been The Colonial Dames of America, through the treasurer, Miss E B Nicholas of Washington, D C , $3500, The Red Cross Auxiliary, No 3, through Mrs Winthrop Cowdin of New York, $2000, and the Woman's War Relief Association, through Mrs Victoria Raymond, treasurer (contributed for Hospital Ship *Relief*,) $2275 This money has been sent principally to general hospitals, to chief surgeons of army corps in the field, and to commanding officers of hospital ships, to be used in the purchase of delicacies for the sick

THE MEDICAL CORPS

Before concluding my report of the operations of the medical department during our short and glorous war with Spain, I feel it my duty to call special attention to the efficient services rendered by the medical officers of the Army in the various responsible positions which the exigencies of the service have made it necessary for them to fill The inadequacy in the number of trained and experienced medical officers has been a source of great embarassment to me in my efforts to meet the demands of the service, but as a rule our medical officers have performed the duties imposed upon them in a most loyal, intelligent and zealous manner They have shared with line officers the dangers of battle, and they have encountered with unflinching courage the more difficult and protracted combat with the infectious diseases which have invaded our camps and filled our hospitals Many of them have suffered attacks of typhoid and malarial fevers and at one time no less than 15 per cent of the corps was disabled by sickness Of those who accompanied General Shafter's army to Santiago, few escaped serious sickness and two of those who distinguished themselves for their devotion to duty lost their lives as a result of exposure to the malign influences which in so short a time sapped the vitality of the flower of the American Army Credit is due not alone to those in the field The labors of those on duty as chief surgeons of military departments, in charge of medical supply depots and in other important positions have been enormously increased and it has required unremitting effort to meet the exigencies of the war

RECOMMENDATIONS

The increase of the enlisted strength of the Army to a total of 60,000, and the large number of new stations to be garrisoned in the islands acquired and occupied by the United States makes an increase in the medical corps absolutely essential I therefore recommend an addition to the number of medical officers now allowed by law, of two assistant surgeons general, with the rank of colonel, six deputy surgeons general, with the rank of lietenant colonel, thirty surgeons with the rank of major, and fifty assistant surgeons with the rank of first lieutenant This recommendation is based upon the present organization of the Army Any increase made by Congress during the coming session will necessitate a further increase of the medical corps

Very respectfully,

(Signed) Geo M Sternberg,

Surgeon General, U S A

SOCIETY PROCEEDINGS

The British Sanitary Institute

Seventeenth Congress

The seventeenth congress of the Sanitary Institute was opened at Birmingham, Eng , September 2, last About 1500 members were present, including most of the leading lights of sanitary science and many of those engaged in the actual administration of sanitary laws, as medical officers of health, municipal engineers, sanitary inspectors, etc

The Lord Mayor delivered the address of welcome to the Institute

Sir Douglas Galton, responded, and in the course of his remarks, lamented the action taken by the Government in relaxing the laws relating to vaccination He was not one of those who held that these laws could not be relaxed but he believed they could not be relaxed under the conditions which the Government had sanctioned They could be relaxed were the Leicester system of isolation introduced everywhere, but without that safeguard it was absolutely wrong to have made any change

Sir Joseph Fayrer delivered the presidential address, in which he reviewed the progress of sanitary science and of the Institute He pointed out the improvement in the vital statistics of the people as shown by the reduced death rate, the enhanced expectation of life, the decline in some of the most potential causes of death and the almost total disappearance of others The Institute had taken an important part in effecting these improvements Its object from the outset had been the advancement of sanitary science by the promulgation of sound scientific and practical teaching of those principles on which health depended, by which life was prolonged and the physical, and thereby the moral welfare of the people promoted It was only comparatively recently that preventive as distinguished from curative medicine had assumed the position of a science, but it was now, from a hygienic point of view, the more important of the two, although the difficulties attending its application were still considerable and largely such as arose from ignorance and incredulity Half a century ago the great mass of the population lived and died under conditions which violated all the now well known principles on which health depended Measures which were then regarded as mere facts or theories of no practical value were now accepted as of cardinal importance Statesmen had learnt to realize that sanitary science came well within the domain of practical politics, and that it was an important part of the duty of executive governments to protect the people from disease which might be prevented or controlled Acts of Parliament, officers of health and sanitary inspectors had produced a better state of things and the poor were no longer left to be a law unto themselves When the present state of the country with its thirty one million people was contrasted with that of the Elizabethan era with its four millions, there was ample proof of the ignorance of science in those days and of the great improvements which have taken place in these Many of the diseases of that time had disappeared and others had been mitigated, but sudden invasions of cholera and other epidemics, even of bubonic plague, gave evidence that vigilance must never be relaxed

The health exhibit was formally opened in the evening The Institute all through its history has encouraged improvements in sanitary appliances by having an exhibit in competition, but the main objects of the exhibit are to educate the general public and to disseminate a knowledge of how best to effect sanitary improvements

On the second day of the meeting the work of the Institute was divided into five conferences or sections

In the first, or that of municipal representatives, the conditions of Birmingham were especially discussed, and papers were read on the dwellings of the laboring classes and on the desirability of having public abattoirs instead of private slaughter houses

In the Section of Medical Officers of Health the chairman's address counseled a cheerful acceptance of the law temporarily abolishing compulsory vaccination If all artificial pressure were abolished there would still remain the strongest natural pressure toward vaccination in smallpox itself To prevent the people from paying too dearly for their education by means of smallpox epidemics, medical officers of health were urged to do all in their power to promote the acceptance of vaccinal protection One paper discussed the bacteriologic and clinical diagnosis of diphtheria, claiming that neither method was conclusive by itself, but that the two together enabled a correct opinion to be formed in the majority of doubtful cases A paper on hospital reform condemned the practice of congregating large numbers of patients in hospital waiting rooms as being calculated to spread disease while the medical staff were unable to give them prompt attention

The Section of Municipal and County Engineers devoted most of its time to dwellings for the working classes A paper on the ventilation of sewers had nothing new in its recommendation that shafts should be fixed to the tallest buildings, high factories and churches being utilized for this purpose Another paper somewhat in advance of the times urged the sanitary advantages of motor vehicles over horse drawn vehicles

In the Section of Sanitary Inspectors a good deal of discussion was raised by a paper which threw doubt on the practical qualifications of those certified by the Institute for appointment as inspectors The author advocated examination by a council of prominent representatives of the profession

The Section of Domestic Hygiene was presided over by the Lady Mayoress, who congratulated the women on having been invited to take part in such a congress It was a sign of the progress of the times, and indicated an appreciation of the public work which women were now doing She advocated the election of women as guardians, factory inspectors and sanitary inspectors The papers read were on the influence of women in household sanitation, on district nursing, its aims and methods, on the need of sanitary knowledge for nurses on the claims of childhood and on the hygiene of dress

Dr **Alfred Hill** on the third day delivered an address on food preservatives, in which he discussed methods for effecting preservation as by drying, smoking, salting, the use of sugar and vinegar, the exclusion of air, mineral or organic antiseptics and cold He concluded that the use of chemic preservatives ought to be condemned altogether because they were harmful in large doses and the quantities added by food manufacturers were uncertain Besides, their use could be supplanted by refrigeration During the past year no less than 6,551,280 cwt of meat had been imported from Australia, the Argentine Republic and the United States of America without the employment of any other means than refrigeration or freezing, the latter method having been employed for the most part from the two former countries and the chilling or refrigeration only for that from the United States

Dr **Christopher Childs** delivered the most important of the addresses of the session, on the prevention of the pollution of river and streams He instanced various reforms that were necessary and expressed a hope that all concerned in the health and welfare of the nation would urge upon Parliament the necessity of the Rivers Pollution and Prevention Bill

On the fourth day a large number of papers were presented at the gathering

Dr H **Scurfield** of Sunderland contributed, "Suggestions for the Improvement of the Milk Supply" He considered the Somerset House standard too low It was, in his opinion, unreasonable to fix upon such a low standard because an occasional cow gave milk of this character The fat standard should be raised to 3 25 per cent He suggested that local authorities should draw up model regulations and issue certificates to farmers who complied with them.

Mr **James Mansbergh** presented the paper of the day, however, on the Birmingham water scheme of bringing water to the city from the mountains of Wales. He described the work of damming up the water courses so as to transform the mountain valleys into lakes or storage basins which would hold sufficient for a dry period of nearly half a year Tunnelling for thirty miles is involved in this scheme

Professor **Frankland** opposed the ideas advanced in several papers on the bacteriologic method of disposing of sewage He said that in his opinion, there was nothing which could surpass the results obtained by intermittent downward filtration and irrigation

On the social side the Institute was entertained at several lunches and receptions and was treated to excursions to Dudley Castle, the Waterworks and the sewage farms

---

Chicago Academy of Medicine.

Meeting of Nov [illegible]

Dr A. **Lagorio** occupied the chair.

Dr **Frank X. Walls** presented a paper to the meeting on

DIAGNOSIS OF CHRONIC DIFFUSE [illegible]

Chronic diffuse peritonitis from a [illegible] point of view was classified as simple, tubercular or neoplastic, not considering the infrequent varieties such as for instance actinomycosis [illegible], etc. Chronic simple peritonitis is usually attended [illegible] exudation, and in direct proportion to the exudation is the diagnosis involved. The [illegible] much discussion has arisen as to the existence of a simple chronic [illegible] peritonitis, though cases have been described as occurring more frequently in children [illegible] French [illegible], Filatoff and others [illegible] would deny a chronic simple [illegible] even though we admit [illegible] disease develops insidiously [illegible] exposure. Pain and abdominal [illegible] symptoms attracting [illegible] seldom excessive [illegible] of the abdomen. [illegible] abdomen, or regions of [illegible] of or revealed on [illegible] present, though [illegible]. The field is usually [illegible] considered in [illegible] examined after aspiration [illegible] association [illegible] The most [illegible] is to be no [illegible] fluid of [illegible] above 1018 albumin [illegible] paper has [illegible] sediment [illegible] that it is [illegible] ar form. I

elevation of temperature is often present at the onset, but later the disease usually pursues an afebrile course. Other general symptoms may be present, more especially intestinal, cardiac, renal or nervous, and vary much in their kind and degree.

The differential diagnosis should exclude tubercular or cancerous peritonitis and ascites. [illegible] and [illegible] have reported each a case of chronic peritonitis, in which tubercle bacilli were demonstrated in the sputum during the early stages of the disease, but later, when the case came to autopsy, careful search for bacilli or characteristic tubercular processes by competent pathologists was negative. The deduction is warranted that the absence of bacilli or tubercles in a chronic peritonitis is no indication that the morbid condition was not initiated by the bacillus of tuberculosis, and also that autopsic negative findings are quite consistent with a previous tubercular infection.

There is no characteristic picture of chronic tubercular peritonitis. At times the diagnosis is evident, while in other cases a laparotomy or postmortem reveals the presence of a tubercular peritonitis that previously had not been suspected or had been excluded. Tubercular peritonitis may arise [illegible] from a latent pulmonary tuberculosis, from a caseous mesenteric or bronchial lymph gland, from an intestinal tubercular ulcer, from a hidden focus in the urogenital apparatus, more especially the testis or Fallopian tube, or from a bone or joint affection. In every case exhaustive examination for a primary focus must be instituted, and its presence or absence is of considerable weight in diagnosis, as tuberculosis of the peritoneum is rarely, if ever, primary. The usual symptoms that draw our thoughts to the peritoneum are pain, distention of the abdomen and symptoms of gastro-intestinal derangement. The pain varies much in its character, constancy and intensity. Usually dull, it may be sharp; frequently intermittent, it may be continuous; as a rule, mild, it is rarely intense. Some tenderness is generally provoked on palpating the abdomen. Vomiting, diarrhea and meteorism are frequently present, though often mild. Palpation or auscultation might elicit peritoneal rub or friction. The inflammatory effusion may be free or encapsulated; it may give rise to physical signs of isolated neoplasms in the peritoneal cavity. The palpation of the curled up omentum has a hard, firm, elongated [illegible] like body lying transversely in the epigastric region [illegible] hardly sufficient to correct such an impression, as it is also present in carcinomatous peritonitis, though more frequent in tubercular. Sometimes the omentum is to be palpated only after evacuation of the exudate, and, instead of being in the epigastric region, it may form a prominent tumor in the right iliac region. When the effused fluid is free in the peritoneal cavity, the relation of the dulness due to the fluid and the tympany of the bowel, as elicited by percussion, gives rise to a sign described by Thomayer. This sign is a very important aid in the diagnosis of chronic peritonitis. In such cases, with the patient in the dorsal condition, we do not find the area of dulness symmetric on both sides of the abdomen with tympany in the median line as we find in non-inflammatory ascites, but we notice that the dulness is much more extensive on the left side and the tympanitic area greater on the right side. Thomayer reports eight cases of chronic peritonitis, five tubercular, three cancerous, in which this sign was present, and was of great value in the diagnosis. The [illegible] reported a case illustrating the sign of Thomayer.

The symptomatology of carcinomatous peritonitis is very similar to that of chronic peritonitis, and the diagnosis is made, as a rule, after determining a primary carcinoma. When the primary tumor is evident, these cases present [illegible] diagnosis, but when the cancer is peritoneal [illegible] latent cancer of the stomach, bowel or [illegible] may be extremely difficult. In every case [illegible] analysis of the stomach, physical examination and [illegible] of the stomach contents, as well as digital [illegible] [illegible] and the rectum is to be [illegible] In addition [illegible] of multiple tumors in [illegible] [illegible] evidences of peritonitis [illegible] cancerous peritonitis [illegible] or cancerous clinically [illegible] dilated stomach [illegible] peritoneum) and in a given case could [illegible] condition [illegible] tube or catheter [illegible] and the [illegible] perhaps more [illegible] with evidence of [illegible] interest [illegible]

r
m
g
nt
der
ntil
ation
n, as
upon
of the
deep
same
l blood
idermal
of selec
coloring
m It is
ough the
elf It is
neated by
the blood
nicely by
photomicro
the cells by
arily one of
lependent of
g found in the

now dead, in
in this direc
d other tumor
Garretson that
rmis there was
de a great many
uticle of a horse
udents who were
nd the scrapings
simply taking the
draw any blood
hrough the deeper
and the cuticle of
particularly where
In the case where
he negro we had in
ent but not to the
ject from which the
at time a fact which
l cells had the power
d to them from the
gment They had
the deepest layer of
the stratum cor

itonitis, I have never diagnosed a case, but in quite a number of instances I have made a diagnosis of tubercular peritonitis after I had opened the abdomen Tubercular peritonitis is of special interest to the gynecologist The starting point in many cases is from the tube and ovary, yet before operation these organs do not give evidence of a tubercular lesion We have adhesions and make a diagnosis of chronic salpingitis and ovaritis, and upon operation we find the peritoneum studded with tubercular masses Williams of Johns Hopkins and Edebohls of New York have written valuable papers on cases of unsuspected tuberculosis Specimens taken from the appendages, not considered to be tubercular, which have been subjected to microscopic examination reveal them to be of that nature I was particularly interested in the paper because some few years ago I had a number of cases of tuberculosis of the mesenteric glands I had three cases, two being in the same family, sisters, and the diagnosis in the first case was made after the abdomen was opened I found the mesenteric glands enlarged and no other disease present I operated on the sister, not because I could feel the enlarged mesenteric glands, but because her symptoms were so similar to the first case I had one other case, the treatment of which simply consisted in opening the peritoneal cavity and draining That was about two and a half years ago, and the patients have remained well up to this time Acute tubercular peritonitis is very liable to result from trouble with the mesenteric glands, and this disease, when limited to the glands, is so difficult of diagnosis that it makes it particularly interesting These three cases had indefinite pains and other symptoms referable to the abdomen, and it would seem that, given a case of somewhat long standing abdominal pain, it would be well for the surgeon to bear in mind that it may be due to a tubercular affection of the mesenteric glands The Doctor has not gone into the treatment of chronic tubercular peritonitis, hence it can not be brought up in the discussion

Dr **James G Kiernan**—I would like to ask Dr Walls whether he considers ascites in the nature of a true perintonitis

Dr **Walls**—No In the conditions in which I have used the word ' ascites,'' I wish it to be understood as a non inflammatory condition, the ascites representing merely an accumulation of fluid because of some probable circulatory or vascular disturbance in other words, a dropsy of the peritoneal cavity, depending upon hepatic or portal vein disease either primary or secondary to the heart, or occasionally, as may occur, in renal disease from possibly a hydremic condition of the blood plus increased vascular permeability

Dr **Kiernan**—You use the word, then, only in the sense of a hydroperitoneum?

Dr **Walls**—Yes, sir

Dr **Charles S Bacon**—I would like Dr Walls to state the manner in which he uses the term simple peritonitis The use of the term is quite important from a diagnostic standpoint All of the inflammations of the peritoneum which arise from various sources, such as ulcers of the intestines, inflammation of the pancreas, the liver or gall duct, etc , are very important. They may be chronic in their course and hard to differentiate from tubercular peritonitis In this connection I wish to relate briefly a case which gave me considerable difficulty in diagnosis and has a direct bearing upon the subject A woman had long been sick and came of a tubercular family She had nursed different members of the family who had had tuberculosis She had a low chronic peritonitis with an abscess of the abdominal wall which naturally would lead us to suspect a tubercular peritonitis But upon examining the contents of the abdominal abscess as well as the peritoneal exudate, there were no tubercular bacilli There were, however, stones in the gall bladder which had first caused a pericholecystitis and later an invasion and infection of the abdominal wall and peritoneum with the colon bacillus This case has an important bearing upon the diagnosis, and these are practically the cases we have to deal with in the differentiation

Dr **Frederick S Coolidge**—I do not feel that we should leave this subject in its present status, and I hope further discussion will bring out some points of interest regarding the pathology of this disease In the first place, as far as my own experience goes, Dr Walls has stated that cancerous peritonitis occurs only in the old, whereas tubercular peritonitis occurs in the young I have seen a good many cases of tuberculosis of the bones and joints in young children and I must say it is extremely rare to find tubercular peritonitis occurring in these cases There are a few cases of tuberculosis of the retroperitoneal glands, from which tubercular peritonitis might arise, the involvement of these glands being secondary to the bone or joint tuberculosis, but the condition must be extremely rare Dr Walls, in speaking of the diagnosis, said that in tubercular peritonitis the spleen is not enlarged as a rule, but in one or two cases of tubercular peritonitis, as shown later by autopsy, there was enlargement of the spleen from amyloid degeneration, which occurred not only in the liver, bowels and kidneys, but also in the spleen I should like Dr Walls to say something in his closing remarks as to the pathology of the disease before we leave the subject, and also, if he has any explanation why simple paracentesis or opening the abdomen produces a cure in many case We were taught years ago that tubercular peritonitis was absolutely fatal, later, when the abdomen was opened and peritonitis was diagnosed, some of the cases got well Whether the opening of the abdomen is simply a coincidence in these cases, as far as a cure is concerned, I do not know I do not feel that the subject will have been complete until we hear from the essayist a little more fully

Dr **Walls** (closing the discussion)—In presenting this subject to the Academy, I stated that I should deal with the differential diagnosis and consider more especially the common varieties of the chronic exudative peritonitis I specifically stated that I should not deal with the more unusual varieties, such as echinococcus, actinomycosis, and possibly glanders, because it would prolong the discussion The differential diagnosis of peritonitis from such conditions as pancreatic cysts, hydrops of the gall bladder, or even appendicitis, might possibly be considered clinically, but those cases would be unusual In cysts of the pancreas, if we consider that phase of the subject, some attempt should be made to examine the digestion of the fats or look for the presence of sugar in the urine, which might be of some aid But I did not consider the unusual forms of peritonitis, but the commoner forms of the disease I wished to discuss more in detail the symptom reported by Thomayer, which is an important one, and which apparently has been either overlooked or has not met with favor in the hands of physicians Indeed, it is hardly mentioned in the literature of the subject Peritonitis following perforation is usually discussed with acute peritonitis The disease may extend over a considerable length of time, and the symptoms would be of an acute rather than of a chronic peritonitis In answer to Dr Bacon's question as to the definition of simple peritonitis, I can not say any more than I have said, namely, that this name is given to the varieties of peritonitis that occur after a history of injury, sometimes exposure, or some have even considered a rheumatic tendency, in which the peritonitis develops more or less insidiously, rather slowly, and evidences of tuberculosis are absent Some authors consider that many of those cases are really tubercular, and you will remember that reference was made to a case described by Osler and Baginsky, in which, during the course of the disease, a small portion of peritoneum was removed, carefully examined, and tubercle bacilli were found The cases continued under observation for some time, and later died from some cachectic condition that developed The findings were that all evidences of tuberculosis had disappeared, nothing was found that looked like a tubercular product Cases of tubercular peritonitis may become simple There is no good reason why we may not have a non tubercular inflammation of the peritoneum Possibly there is some variety of bacteria or toxic product that might bring abont so called simple peritonitis Why a case of chronic tubercular peritonitis recovers after operation, I can not answer from a pathologic point of view, other than to suggest that in a general way it may be due to some vascular disturbance, or the removal of pressure, or to the action of the atmospheric air upon the peritoneum It is difficult to give a satisfactory answer as to why these cases are cured It seems to be a fact however, that a greater number of cases of tuberculosis recover after operation than recover without operation

Dr **Coolidge**—Will you kindly tell us, Dr Walls, a little more about the pathology of peritonitis

Dr **Walls**—The pathology of tubercular peritonitis is the same as that of tuberculosis in general It depends upon the entrance of the tubercle bacilli by means of the blood channels lymphatics, etc and the reactionary product varies in different cases, probably depending upon the number and virulence of the micro organism, resistance of the individual, etc Too much time would be consumed in a detailed discussion of the pathology of chronic tubercular peritonitis, and in my paper I confined my remarks to the diagnosis

Dr **L Loeb** read a paper on

THE TRANSPLANTATION OF THE SKIN AND THE ORIGIN OF THE PIGMENT OF THE SKIN

Experiments were made on the ears of guinea pigs White skin was put on a wound in black skin and black skin on a wound in white skin The results were as follows

1 Black skin adhered and remained permanently White skin did not adhere for any length of time, the longest period

of time being four and one half weeks So we learn of an unexpected factor in transplantation The different structure of the white and black epithelium of the guinea pig seems to cause the different result in transplantation

2 These experiments show that the transplanted white skin is often thrown off after the union with the underlying tissue has become complete and microscopically absolutely normal, and although in the deepest layers the number of mitoses is increased and at the edges of the piece of skin regeneration takes place So we learn of a secondary disconnection of transplanted skin after it has grown fast and lived for some time

3 Transplanted black epithelial cells migrate into the neighboring white epithelium, and if white epithelium is transplanted, the neighboring black epithelial cells infiltrate the white epithelium In this way the black skin substituted white skin Microscopically, no signs of degeneration of the neighboring white cells can be seen Therefore, under these conditions, apparently normal white epithelium is infiltrated and substituted by cells of the black epithelium

These experiments, in connection with a number of other experiments and observations, prove also that the pigment of the black skin is not carried into the epithelium through cells from the connective tissue, but that it has its origin in the metabolic changes of the epithelial cells alone This is proven by the following facts

1 The transplanted black epithelium remained in almost all cases permanently black, and the transplanted white skin remained white as long as it adhered Therefore, both white and pigmented epithelial cells can live, each on the tissue of the other, and yet one kind of cells will produce pigment, the other not This shows that the nourishment which the epithelium received from the tissues upon which it is grafted does not influence the production or non production of pigment in the epithelium So far it is entirely unknown what food the epithelial cells require to produce pigment Nothing proves that it must be hemoglobin But this we know, that the main factor for the production of pigment lies in the structure of the epithelium which must be different in white and black skin (In these experiments epithelium without any connective tissue, or with only an occasional thin layer, on which no sign of regeneration could be seen, was transplanted)

2 We can induce black epithelium to regenerate over white connective tissue and yet the regenerated epithelium remains permanently pigmented

3 The originally unpigmented cutis on which black epithelium has been transplanted, or on which black epithelium has regenerated became afterward pigmented, particularly the cells resembling chromataphores appearing only secondarily in the cutis

4 The study of the regeneration of the black epithelium leads to the same conclusion The pigmentation in the regenerating black epithelium takes place in a remarkably regular way Never was the pigment carried from the connective tissue into the epithelium There is a stage in the pigmentation when ameboid like chromataphores appear at the base of the epithelium, no such chromataphores having previously appeared in the cutis

5 To the regenerating black epithelium the chromataphores behave like the basal epithelial cells They show mitotic division just at the same places and at the same time as the ordinary basal epithelial cells show an increased number of mitoses No such mitoses can be seen in the cutis

6 If we observe the localization of the pigment in the normal black epithelium, we find facts which are very easily explained by this theory, but which would be hard to explain by the supposition that the pigments carried from the connective tissue into the epithelium The hair glands of the guinea pig were found always free from pigment. A decrease of the pigment takes place in the upper layers of the epithelium, where the Malpighian layer changes into the granular and horny layers Chemic processes in the Malpighian layers lead to the formation of pigment Chemic processes apparently lead to the destruction of the pigment particularly in those places where new chemic substances arise in the skin, such as eleidin and keratin that is to say, where chemic transformation takes place In the hair glands of the guinea pig the chemic processes probably differ from those in the epithelial cells in these glands correspondingly, no pigment is produced That seems to be the most probable explanation The peculiar distribution of the pigment granules in the normal as well as in the regenerating black epithelium (showing a polarity of the cells) points to the same conclusion

Dr William L Baum—The work of Dr Loeb is decidedly original in its character I was exceedingly interested in the paper, for the reason that it corroborates to a great extent clinical experience in regard to the skin in colored individuals that is, there are evidently qualities present in the skin of colored individuals different from those in whites We find this to be true in the greater number of diseases characterized by rapid exfoliation of epidermal cells, they are never so marked in the colored races as in the white It is also not of the same character as in the white skin One fact, which has always been of considerable interest to me, and which is explained by these investigations, is that in the colored races the skin pigmentation recovers after stimulation in scar tissue where the scar itself has been devoid for a long period of time of pigmentation The reason why there could not be this skin pigmented condition present in the follicles of the skin is explained by Dr Loeb's work The follicles are after all lined by the stratum granulosum, which, according to his investigations does not contain epithelial cells, and therefore does not in the beginning have the same chemic conditions present The pigmentation of skin has been a bone of contention among dermatologists for many years, and no satisfactory conclusion has been reached as to the origin of the pigment The Doctor's explanation is not only an ingenious one but is borne out by the results of his own investigations

Dr W X Sudduth—This paper is one of great interest from an embryologic standpoint, although that phase of the question was not dwelt upon to any great extent It seems to me, that the experiments the Doctor has carried on admirably demonstrate the truth of the old theory of the individuality of cell life, and another point, that pigmentation is a local and transitory condition rather than a permanent one We know the skin is divided into two layers, the epidermis and the cutis vera, and these two layers arise from two separate layers of the blastoderm the external and middle layer, and the cells in these two separate layers have separate characteristics The epidermis has three distinct layers, the stratum Malpighii, stratum granulosum, and stratum corneum The two outer layers are older stages of development of the stratum Malpighii which is the deeper or infant layer of the epidermis The pigment is the deepest layer of the epidermis and it is there that we find pigmentation most marked As the cells become older and grow toward the surface they lose their pigmentation, until when they reach the surface there is almost no pigmentation present This would seem to indicate that the protoplasm, as found in the stratum Malpighii has a selective action upon the coloring matter that may be found in the serum of the blood which is exuded at that point and taken up by the deepest layer or cells and transformed into pigment The same selective action takes place in the coloring of the red blood corpuscles It is perfectly reasonable to expect the epidermal cells of the stratum Malpighii to have the same power of selection and they would get pigment out of the vegetable coloring matter of the serum that is found in contact with them It is true that there are no blood vessels which pass through the basement membrane, so called into the epidermis itself It is also true that the cells of the epidermis are permeated by canals in all directions through which the serum of the blood passes That point has been demonstrated very nicely by quite a number of observers and I have beautiful photomicrographs showing those canals and the separation of the cells by those canals, so that the process is not necessarily one of osmosis, but of direct channel circulation independent of blood vessels, no blood corpuscles, however, being found in the epidermis

In 1885, in connection with Dr Garretson, now dead in Philadelphia, I carried on a line of experiments in this direction, *following* operations *for* epithelioma and other tumor conditions, to substantiate the theory of Dr Garretson that if the scar should be covered over with epidermis there was less possibility of return of the tumor We made a great many experiments, and in our work we used the cuticle of a horse and scrapings from the cuticle of those students who were willing to submit to it and among them we had the scrapings of the cuticle from the arm of a colored man simply taking the epidermal cells, not scraping deep enough to draw any blood which would indicate that we had not gone through the deeper layer All these scrapings from the horse and the cuticle of the students tended to take hold and grow particularly where antiseptic conditions were strictly observed In the case where the scrapings were taken from the arm of the negro we had in time the development of more or less pigment but not to the same extent as found on the original subject from which the cuticle was taken It showed to me at that time a fact which was conclusive, namely that the epidermal cells had the power of acting upon the fluid nourishment carried to them from the blood and manufacturing their own pigm[illegible] The [illegible] selective action, whether they came fro[illegible] the epidermis, the stratum granulosu neum, and when brought in contact with the serum of the blood on a denuded surface they developed typic skin and pigment to a certain extent These experiments were interesting to me, because it was the first time my attention had been directed to the selective action of cells, although I had held that theory for a considerable length of time It was interesting, furthermore, because of the fact that at about that time the theory was advanced of the transmutation of connective tissue cells into epithelial cells, and the theory was also advanced that the pigmentation came from the transformation of these migratory connective tissue cells, which were supposed to enter the epithelium through the basement membrane

Another point was brought out in my experiments regarding the stratum Malpighii, and the essayist has referred to it in speaking of the location of the pigment The deepest layer of the stratum Malpighii, which lies in contact with the capillaries of the blood vessels, is composed of undifferentiated cells That is, as we understand the cell, it is made up of a nucleus, cell body and cell wall, and the cells of the deepest layer of the stratum Malpighii have no cell wall, and there is no differentiation except that which is assumed in the hardening process of these cells They lie there as a layer of nuclei in the midst of a layer of protoplasm, and differentiation of cell body comes later as the cell crowds toward the surface As we get up toward the stratum granulosum, we have the cells divided and find a cell body and a cell wall This division is caused to a certain extent by the channels which form between the cells extending toward the surface, but to a great extent it is mechanical As we get nearer the surface, we have the differentiation complete Where we find pigmentation going on there is no marked differentiation of cell body from cell body, although the nuclei are well formed and stand as palisades on the so called basement membrane Pigmentation is located, as the Doctor has indicated, on the upper side of this basement membrane

Dr Emil Ries—I am not able to say very much about grafted skin and the growth of pigment in the grafts of skin I have done some work on pathologic skin in the human (white) being There are a number of processes accompanied by loss of pigment and by a superabundance of pigment One disease which I studied for a little was psoriasis, which shows very remarkable conditions of change in pigmentation The psoriasis efflorescence looks white as a rule This whiteness is not due to loss of pigment, but is due to air getting in between the scales of skin, which scale off from the surface, so that this surface then reflects light more than the original healthy skin does But when we scrape off these scales we find that the skin underneath looks paler, whiter than the surrounding skin, On microscopic sections we find the pigment contained in the chromataphores, which are visible in the human skin The chromataphores in the psoriatic efflorescence are quite as frequent and quite as full of pigment bodies as the surrounding skin The fact is that in some cases the chromataphores are more frequent than in normal skin In the cell layers of the epidermis itfelf, there is less pigment in the psoriatic skin than in the surrounding healthy skin Some interesting observations are to be noted of psoriatic skin when the chrysarobin treatment is used You doubtless have seen cases treated with chrysarobin where the surrounding skin at first assumes a very dark color, while the psoriatic efflorescence looks white, stands out very pale in comparison with the surrounding skin If you examine such skin microscopically, you do not notice any further change The change of color is not due to any change in the pigment in the cell layers of the epidermis or the chromataphores The discoloration is not due to a change in the pigmentation contained in the cells of the normal epidermis, but it is due to the artificial substance which we apply to the skin, and it is not proven that there are any marked changes in the chromataphores or in the pigment contained in the skin When the psoriasis heals and the diseased skin returns to its normal condition, we do not notice any difference between the original effloresence and the surrounding skin as far as pigmentation goes The greater number of chromataphores, which are present in diseases underneath the efflorescence disappear I have experimented on pigment in the chromataphores and in the skin, and I have tried to find whether there were any special changes in their micro chemic reactions etc , but I was not able to find them A great many investigators have worked on the pigmentation of the skin in processes which are characterized by loss of pigment, partial albuminismus, defects of pigment after papular syphilis, the premature turning gray of the hair, and other conditions, but it would take us too far to discuss all of those conditions But from a pathologic standpoint, the changes in the chromataphores are marked The presence or absence of pigment in the epidermis is an important point Among the skin pathologists the generally accepted theory was that the chromataphores bring the pigment into the epidermal layers When we learn that the epidermal layers themselves produce this pigment, we will have to look at the chromataphores in an entirely different light The question arises, what is the function of the chromataphores? Dr Loeb has found that the epidermal cells begin to migrate into the connective tissue Now, it is perfectly possible that the chromataphores are originally epithelial cells, although I am not able to make any positive or definite statement regarding that point

Dr James G Kiernan—I would like to ask Dr Loeb whether, from an ethnologic standpoint, certain other factors should not be considered in connection with this subject It is practically accepted by ethnologists, that the negro is developed from a lower phylogeny than the so called Caucasic and Mongolic races Going down in the scale of evolution one thing is noticeable, as Dr Sudduth has pointed out that the cells possess in certain instances greater individualistic functions In other words, in passing down in the scale of evolution, the individualistic character of the cell increases As we pass upward in the scale of evolution, we find the cell confined to fewer functions, but losing to a considerable extent, and in many cases altogether, its powers of reproduction I would like to ask Dr Loeb whether that biologic fact has not something to do with the fact that he has pointed out, namely, that the pigmented cells have less tendency to degenerate into the connective tissue cells, and also whether it does not explain the fact to some extent, that a very large majority of the wounds received by negroes remain white and not pigmented That has been my experience in making autopsies among the pauper and degenerate classes It might explain also why there are numerous exceptions to that Occasionally, as I have noticed, old wounds in negroes are not only not paler in type than the surrounding skin, but are actually blacker Furthermore, I would like to know whether the same fact and some other facts that he has pointed out would not have a bearing on vitiligo as it occurs in negroes, secondary to apoplectiform conditions, paretic dementia, and secondary to true apoplexy

Dr C F Pinckard—The point brought out by Dr Ries in speaking of psoriasis, namely, that the color of the skin is not due to a change in the *amount* of pigment, corresponds with the condition in the iris For instance, different colored eyes have practically the same amount of pigment , it is simply the arrangement of the pigment that makes the different colors In the skin, the depth of the pigment below the surface is the important factor

Dr Loeb (closing the discussion)—I can not contribute anything which will satisfactorily answer Dr Kiernan's questions The influence of the nervous system upon the chromataphores has given rise to the writing of several papers Undoubtedly, there is some connection between them, but as this work has not been fully demonstrated, it is a little premature to say anything definite about it The view that there are channels in the epithelium is, I think, generally accepted As to the theory or supposition that the epithelial cells select their own food from fluids that they get from the connective tissue meshes, and that this different selective power of different epithelial cells causes their difference in pigmentation, we must regard this simply as a hypothesis As I stated in my paper, we have no fact that demonstrates that it is just hemoglobin received from the fluids which enables the epithelial cells to produce pigment So far as my investigations go, there is very little to show that there is such a selective action on the part of the epithelial cells, as has been stated Indeed, there are some facts entirely against it If we regard pigmentation of the epithelial cells in the light of regeneration, we see that very often the epithelium is entirely without connection with the underlying tissues Nevertheless the process of pigmentation takes place just the same On the whole, we seem to agree in the belief that the epithelial cells themselves produce pigment Dr Ries mentioned some interesting facts about pigmentation in psoriasis It is right that we should collect facts regarding pathologic changes in the skin, but we must consider it often difficult to give a satisfactory explanation from pathologic specimens We do not know how this comes about Dr Ries also mentioned the migration of epithelial cells into connective tissue This can occasionally be observed in the process of regeneration

---

Chicago Ophthalmological and Otological Society

Regular Meeting, Nov 8, 1898

Dr Coleman occupied the chair After the minutes of the previous meeting had been read and approved, the society voted to become affiliated with the Chicago Medical Society

Dr Clark W Hawley reported a case of traumatic cataract with dislocation of the lens, as follows A young man was injured in the left eye from the concussion of a gun, about a year ago, following which cataract was first noticed, and within a few weeks Two weeks ago needling was done, a small hole being made in the capsule The next morning, for the first time, it was noticed that the lens was dislocated, being turned upon its vertical axis, the anterior edge touching the cornea, and the anterior surface looking toward the temporal side It was very much swollen On consultation with Dr Starkey, it was decided to let it alone The lens substance protruded through the pupil, some of it hanging over the lower border of the iris, it slowly became wholly opaque and smaller, without any irritation of the iris or pain At present the lens is rotated backward, so that the anterior surface points almost directly forward, a little to the temporal side, and the lens is dislocated toward the temporal side The border of the nucleus can be seen almost at the temporary pupillary edge Reaction to light and light perception and projection are good

Dr Bulson reported a case of mastoiditis and sinus thrombosis with operation and recovery In conclusion, the following features were brought out 1 The development of well marked sinus phlebitis, with probable thrombosis after apparent recovery from abscess of the mastoid antrum, which had been thoroughly evacuated He attributes this to infection arising from carious bottom and inner aspect of the large cell at the apex of the mastoid process, which was probably overlooked at the time the mastoid operation was performed This carious process, easily overlooked in the mastoid antrum, owing to small area of presentation in that cavity, undoubtedly involved the inner table at the time of the mastoid operation, and if removed at that time would have obviated the necessity of a second operation 2 The final disappearance of this phlebitis and probable thrombus without the development of other pyemic manifestations, such as pulmonary infarcts or abscesses in other portions of the body, or a fatal termination 3 The development of an epidural abscess somewhat remote from the site of the carious process, and not discovered or suspected at the time of the second operation This was probably occasioned by the burrowing of pus from the original mastoid abscess and subsequently becoming walled off by adhesive inflammation 4 Demonstrations of the necessity of thoroughness in mastoid operations, which should not only include free opening of the mastoid antrum and obliteration of pneumatic structure, but careful search for and removal of small areas of diseased or carious bone

Dr Starkey—The case is interesting from two standpoints 1, that of the surgeon, 2, that of the physician It is instructive as outlining the thorough operation that is necessary in such cases On the other hand, it shows how some cases that are apparently very desperate will recover without further operative interference It shows, too, that desperate cases occasionally get well, and that very extensive disease processes can be relieved and restoration follow

Dr F C Hotz—There was evidently in Dr Bulson's case thrombosis of the lateral sinus I do not remember, in listening to the paper, whether the doctor said in exploring the sinus with a hypodermic syringe he drew any blood or not

Dr Bulson—I did not

Dr Hotz—I believe you stated you did not get any pus

Dr Bulson—Yes That is the reason I suspected there might be a fibrinous clot

Dr Hotz—The course of infection may have been from the mastoid or the tympanic cavity This case calls to my mind a case of thrombosis of the lateral sinus that occurred early in my practice, in which the patient had recovered apparently from an acute otitis media with perforation of the membrana tympani He had recovered so well that at my last visit to the house, which was on Saturday, I told him that next Monday he could go down to his business He felt perfectly well, was up and about the house until Sunday night, when he was suddenly taken with a tremendous chill, which was followed by a high temperature, and in a few hours unconsciousness I was called in the morning (Monday) and found him unconscious, with an icteric color, high temperature, swelling behind the ear, extending downward, following the jugular vein The patient did not recover After several chills he died that (Monday) night I obtained permission to open the skull A clot was found along the sinus, adhering to the wall, but not obstructing the entire lumen That accounted for the fact that no evidences of thrombosis had been discovered, although that fibrinous clot had certainly been forming some time but the blood circulated through the sinus in spite of the clot, and the patient manifested no symptoms of such disturbance Death was caused by multiple emboli in the small meningeal arteries The thrombus extended from the sinus into the jugular vein and was decidedly friable I saw that a large piece had broken off from the end, and in the circulation it had been split up into numerous little particles which went from the venous into the arterial current and probably lodged in the cerebral arterioles

Dr Bulson (closing the discussion)—I have but few remarks to make The case reported presented so many interesting features that I could scarcely cover them in the condensed paper presented to you this evening The results secured were highly satisfactory in consideration of the fact that an unfavorable prognosis had been given to the members of the family prior to the second operation, my belief at that time being that the patient would die from pyemia In answer to Dr Hotz question relative to exploration of the sinus with a hypodermic needle, I will say that the needle was plunged into the sinus twice without obtaining anything that would indicate the character of the vessel I felt reasonably certain that a thrombus existed, but heeding the advice of a prominent Indiana surgeon who was present at the operation, I concluded not to open the sinus, though I think I should now do so in a similar case if opportunity presented itself Inasmuch as a large hypodermic or aspirating needle could not be obtained promptly when desired, I could not be certain that pus or blood was not obtained because the needle was so small or because it was thrust into a well developed fibrinous clot Judged from the feeling and tenseness, which latter seemed to extend well down into the neck, I feel certain there must have been a thrombus there, doubtless involving the outer lumen of the vessel, if not completely occluding it Recovery may be attributed largely to good nursing and a strong constitution, the patient being a man weighing fully 190 pounds and the picture of health The epidural abscess was undoubtedly due to infection, probably from a portion of the carious process overlooked at the time of the original mastoid operation The operation lends added force to the idea that a mastoid operation should be thorough I do not believe that it is good policy or surgery to rest easy with simply puncturing a little hole in the mastoid antrum, or, as frequently happens, into a large pneumatic cell, and by the evacuation of a little pus think that the patient is going to get well without complications or further operative procedures Where carious bone exists, and this is especially true in long standing cases, the patient will never get thoroughly well until the carious bone is removed, and this can not be done unless the parts are thoroughly exposed so that they can be inspected with the naked eye and the operation done in a thorough and systematic manner as required It has always been my policy to thoroughly open the mastoid antrum, and to carry the curette in every direction until solid bone is found, and as long as any soft or carious bone is detected to keep on with the operation until the same has been completely removed Unless great care is exercised small spots or channels of carious processes may be overlooked, as was probably the case in the instance cited Considering the gravity of the case reported and the extensive operation required for relief, I am very glad to be able to report satisfactory results and the recovery of the patient

Dr Coleman—With reference to dressings speaking generally, would you pack the wound for a considerable time or for a short time?

Dr Bulson—That depends largely upon the nature of the case and the operation If there is considerable pus being formed I remove the dressings and irrigate As a rule I do not irrigate I suppose you refer to mastoid operations?

Dr Coleman—Yes, sir, and I want to know whether you would repack a wound for two or three weeks as a rule There are exceptions in which you might pack it for two or three days and then allow the wound to heal

Dr Bulson—In a simple mastoid operation I aim in the first place to establish a connection between the middle ear and the mastoid antrum, so that an antiseptic solution injected into the fistulous opening will pass out at the meatus The wound, including mastoid antrum, is then lightly packed with a dry gauze dressing, and unless there is a rise of temperature this dressing is not disturbed for a period of four or five days when if the wound is found to be dry, the dressings may be removed and the fistula allowed to close In some instances, in order to facilitate drainage the dressings will need to be replaced frequently for several weeks

Dr Gradle presented a new instrument for the removal of the enlarged pharyngeal tonsil in one piece and showed [illegible] specimens illustrating its efficiency

---

Just Ordinary Substitution—Customer (in bookstore) I want to look at some bibles Clerk (formerly with druggist) We're just out of 'em We have something [illegible] as good —*New York Journal*

Cincinnati Obstetrical Society

Nov 10, 1898

Dr A W Johnstone reported an extirpation of a myomatous uterus He was unable to find any ovary on the left side There was only a small left uterine artery and absolutely no vestige of the ovarian artery upon the left side There was only one ovary and tube There was no evidence of previous surgery The cervix was displaced to the left side In doing the operation, the cervix was split and left In this way good drainage was secured and the case recovered nicely

Dr Edwin Ricketts presented a photograph of a tumor weighing sixty five pounds, removed by total extirpation from a woman 52 years of age Death occurred after thirty five hours, the immediate cause of death being unknown

Dr Rufus B Hall presented a specimen removed from a case of extra uterine pregnancy The specimen was a fetus six inches long, with the placenta forming the sac, which was not ruptured in its removal The fetus had been dead for some time Convalescence easy

Dr A W Johnstone believed that the specimen presented by Dr Hall represented the first step toward the formation of a lithopedion In this case the specimen showed evidence of infection, which emphasizes the necessity of surgical interference in these cases During the meeting of the American Medical Association in Cincinnati, it was held by some that an operation was unnecessary in these cases, which assertion the case just reported would tend to disprove Even a lithopedion ought to be removed, for a woman is never safe with the results of an extra uterine pregnancy in her abdomen

Dr S Stark gave a brief abstract of a report that recently appeared in the *Centralblatt fur Gynekologie* The case was one of tubal pregnancy with the history of repeated ruptures Abdominal section revealed the child free in the abdominal cavity, among the intestines There seemed to be no reaction whatever on the part of the peritoneum There was no amnion, and evidently the fetus had been passing its urine and discharges into the free peritoneal cavity of the mother without doing any damage The placenta, which was adherent to the remaining portion of the tube and over the surface of the uterus and bladder, was removed with difficulty only at the end of four weeks It took two weeks longer for the wound to heal A ventral hernia remained, which was operated upon six or eight months later At that time all the adhesions formed from the lymph thrown out had disappeared The child was alive

Dr Edwin Ricketts reported a case of extra uterine pregnancy upon which he had operated The fetus was found out among the intestines There were no adhesions The fetus was pale in appearance, apparently blanched He succeeded in removing the placenta at the time of the operation

Dr Johnstone called attention to the fact that in the case of the first living child removed in the way described, the conditions found were exactly similar to those described by Dr Stark There were no adhesions, no amnion, and the child was free in the abdominal cavity We must not forget that the placenta may keep on growing even after the death of the fetus Septic infection is the greatest risk in these cases

Dr Hall, in closing, stated that he believed there had been, in the case he reported, several hemorrhages of considerable size, and that nature had attempted in each instance to absorb the blood After one of the hemorrhages the woman appeared as large as at the sixth month of pregnancy

Dr Magnus Tate read the regular paper of the evening,

THE TRANSMISSIBILITY OF MORPHIN

He gave a brief review of the literature and reported cases of transmissibility of drugs to the child through the mother's milk The more important drugs affecting the child through the mother's milk are belladonna, effect constant, potassium iodid, effect not uniform, mercury, effect very feeble and only after prolonged administration, saline cathartics, effect not constant, quinin, through the use of which a fatal illness has been reported, arsenic, if given in sufficient quantity, salicylates, if given in sufficient quantity, opium, effect inconstant, but may produce toxic symptoms A confirmed morphin user is known by pallor, emaciation and contracted pupils But none of these symptoms were present in the cases observed by the essayist, nor was there any atrophy of the genital organs He believes that morphin in small doses will not affect a healthy pregnant woman differently than if she were not pregnant Such doses constantly repeated will produce a marked effect upon the gastro intestinal system, and this may be followed by a train of nervous phenomena, which may not only seriously affect the health of the patient but that of the fetus, and an abortion or premature labor may result The taking of large doses means danger to life of both the patient and fetus The essayist noted the effect of morphin, gr ⅛ to ¼, given hypodermatically to thirty women after labor, pains were good and strong and the os dilated to the size of a quarter During the first stage pains were reduced in frequency, became lighter, and in eight cases ceased from one to two hours During the early part of the second stage the effect was not constant, in a few cases the pains were lessened in force and strength, but in no case did they cease Later on in the second stage, there was no effect whatever In two cases, in which the cervix was rigid and unyielding, morphin caused relaxation and softening and labor terminated normally In a normal case of labor, in a healthy patient, morphin does not predispose to postpartum hemorrhage when the drug is administered in ordinary doses, gr ⅛ to ¼ There were no cases of postpartum hemorrhage in the thirty cases reported Small doses of morphin taken by the mother may not be and generally are not discovered in the milk, because the clinical evidence is not strong enough to point to the source of the existing evil Larger doses produce such marked symptoms in the infant, that it seems rational to make the statement that morphin, if taken in sufficient quantity by the nursing woman, will readily be transmitted to the infant For the detection of morphin in the milk, he used Kalkbrunner's test, consisting of two solutions The first solution is ferric chlorid, grs 30 water ℥iv, the second solution, potassium ferricyanid, grs 2, water ℥iv Add to the suspected fluid five or six drops of the first solution, then three or four drops of the second solution If morphia is present, the color will change to a pale green or deep blue, depending upon the amount present In the absence of morphia the color is a dirty gray

Dr Edwin Ricketts referred to a case in which the administration of small doses of morphia to the child stopped convulsions that were probably caused by the mother receiving hypodermatic injections of morphia It was necessary to continue the drug several weeks The child still lives

Dr Stark thought the case indicated that morphin does not pass through the placenta, or the child would have acquired a tolerance to the drug

Dr Johnstone thought this could be accounted for by a difference in the rapidity of elimination through the placenta and through the breast The child might get a much larger dose through the breast than through the placenta He reported a case in which a child was born of a mother who used morphin The child never nursed At times the child had irritable spells, which could only be quieted by the administration of paregoric The child seemed to have become addicted to the opium habit In another case morphin was given for severe after pains The second or third day the child seemed to go to sleep and died It seemed likely that she child had been poisoned by morphin excreted in the milk

Dr Palmer believes we may affect the child in utero by administering morphia to the mother, but the quantity of morphia must be much larger than would affect the child when taking the mother's breast, later on Morphia diminishes the activity and painfulness of the contractions in parturition, and is one of the best remedies we can give when the uterine contractions are extremely painful and when there is a want of normal dilatation of the cervix uteri in the first stage of labor, but morphia is not so good as chloroform by inhalation in such cases Another agent which has a marked influence upon the lacteal secretion is large quantities of whisky and beer Children at the breast may be made drunk by the nurse taking too large quantities of these beverages

---

Cincinnati Academy of Medicine

Meeting held Oct 31, 1898

Dr C R Holmes reported a case, and showed the patient, whose left eyeball had been injured by a thirty eight-caliber ball fired at a range of two or three feet The victim had been leaning over a table at the time, so that the plane of the anterior part of the face was directed almost horizontally backward The ball struck the orbital plate and without splintering it or causing fracture of any part of the skull, passed downward, injuring both lids, and buried itself in the cheek, from which it was removed It had not caused a rupture of the skin, but the force of the impaction against the eyeball had injured the inner tunics of the eye, resulting in hemorrhage into the vitreous, and a lenticular opacity He exhibited the bullet, which was greatly flattened

Dr Horace Whitacre presented a patient who had been injured some weeks previously by a severe blow on the head the result of the latter coming in contact with the wheel of a heavy wagon He was seen a few minutes after his injury, was not unconscious, but exceedingly restless and irritable The principal symptom was the slow pulse, about 52, subsequently diminishing to 46 There were no localizing symptoms and no paralysis, some little time after the injury there developed a subconjunctival hemorrhage on the left side, there was a large hematoma present on the back of the head The symptoms becoming worse and the patient sinking into a condition of unconsciousness, it was decided on consultation with Dr Frieberg to trephine The second opening in the temporal region exposed a large clot between the skull and the dura The opening was enlarged and the bleeding point tied About two handfuls of clotted blood were taken away The dura was not opened, as it was thought that the clot found fully accounted for the symptoms The result, uninterrupted recovery, proved the soundness of this view

Dr C A L **Reed** reported three cases of cholelithiasis In the first case an additional diagnosis of chronic recurring appendicitis was also made On removing the appendix he found by carrying his hand upward toward the liver that the gall bladder was greatly distended The primary wound was sewed up and the regular incision for gall bladder operation was made, 380 gall stones, remarkable for their almost uniform size, were removed In the second case the gall bladder was greatly distended, but on opening it no stone was found, three pints of fluid, however, exuded from the gall bladder Search revealed a large stone in the common duct, which was removed by a linear incision The patient made a good recovery, but that very day, fully two months after the operation, he had presented himself again with jaundice The speaker did not believe this to be due to another stone, but that cicatricial contraction in the line of incision of the common duct had caused a stenosis of this duct, and that another operation would be necessary to relieve this condition

Dr **Freiberg** mentioned some cases, operated on by Mc Burney, in which an opening was made into the duodenum and the stone lodged in the common duct delivered through the papilla, the object of this operation being to avoid the troublesome stenosis that had occurred in Dr Reed's case

Dr **Reed** said that he had made the operation, but that the difficulty of knowing just what part of the gut to open and the greater difficulty of finding the mouth of the common duct were serious objections to the operation The third case reported by Dr Reed was one of gall stone colic recurring at frequent intervals for twenty five years Operation revealed a stone impacted in the cystic duct, and a large number of smaller stones behind it

Dr **Meyer Hfidingsfeld** presented a patient whom he had been treating with electrolysis for nevus Two mille ampères was the current used, conducted by a steel needle attached to the negative pole, the point of the needle reaching into the true skin so as to avoid extensive scarifying, though he admitted that cicatrization proceeded more slowly by this method than if the needle had not sunk so deeply

Dr **Ricketts** reported a case, and exhibited a specimen, of a large ovarian cyst weighing twenty five pounds He also showed a specimen of a large dermoid springing from an ovary

Dr B F **Lyle** exhibited a specimen of aneurysm of the thoracic aorta, about the size of a walnut, situated at the junction of the ascending and transverse portions of the arch The patient had died suddenly, but the aneurysm had not ruptured A thickened condition of both apices of the lungs was also present (examination of the sputum had proved tubercle bacilli to be present)

Dr E W **Mitchell** reported a case of what he believed to be angina pectoris with fatal termination, in a man 58 years of age He had never been subject to attacks before nor did his history of the case throw any light on his present illness His symptoms were sudden, violent, *constricting* pain under the sternum, radiating down both arms The heart felt like it were being held in a vise He did not fall or lose consciousness but was very sick and nauseated Dr Mitchell had thought him to be suffering from an anginal attack, but the acute symptoms being over and the circulation somewhat depressed he thought the nitrates contraindicated and gave the patient 1 30 gr strychnin by the mouth and 1 50 gr digitalis by hypodermic injection The pulse rallied somewhat, but suddenly he noticed a marked blanching of the face and, feeling for the pulse at the wrist, could find none Respiration continued fully two minutes after the entire cessation of the heart's action Dr Mitchell looked upon three causes in the etiology of sudden death he ruled out the brain in this case, for the patient, after his primary attack had conversed genially with his friends and was perfectly conscious of his surroundings He thought that the continuation of respiration for some minutes after the heart had ceased action would rule out any involvement of the respiratory apparatus In addition, examination of the lungs had been entirely negative Examination of the heart had been negative also, as far as the presence of murmurs was concerned He knew that no diagnosis could be made in this case without a postmortem examination, which he had unfortunately been unable to obtain He might, indeed, have been suffering from an aneurysm or thrombosis of the coronary arteries He based his diagnosis of angina pectoris entirely on the history

Dr T Louis **Brown** reported a case of foreign body (hog s bristle) almost an inch long imbedded in the left tonsil removed

Meeting of Nov 14, 1898

Dr C D **Palmer** read the regular paper of the evening

WHAT IS THE PROPER FIELD OF SALPINGO OOPHORECTOMY?

The paper was along the line of conservatism in gynecologic surgery As to when and to what extent we are to sacrifice the ovaries and tubes, he thought the removal of the ovaries should be done more frequently than that of the Fallopian tubes Often in an attempt to remove the ovaries, inadvertently the tubes are also taken out In point of danger, there is little difference whether one or both of these organs are removed The removal of either organ on either side renders the other of the same side practically useless, in a procreative sense Of more importance is the extent to which the ovaries are sacrificed Their removal, as a rule, means an abrupt and immediate cessation of menstruation, an artificial menopause The menopause of any woman, especially if young, abruptly induced, is attended with phenomena of the nervous system, more pronounced in perturbations, more enduring in results than is the natural cessation of menstruation The menopause is commonly attended by atrophic anatomic changes in the genital organs Exceptionally, menstruation continues indefinitely, notwithstanding attempts to completely extirpate both ovaries Such cases may be attributed to improper ligation of the broad ligament, as to depth or location, and the unintentional leaving of some ovarian structure The essayist advised the operation 1, to abrogate the process of ovulation 2, to check or modify the menstrual discharge, 3, to remove organs incurably diseased

As to when we are justified in making a Battey operation for certain nervous diseases, the essayist believed the operation indicated only when the nervous phenomena can be traced to or are limited by ovarian action, or when some serious organic ovarian morbid change, in kind or in degree, can be detected by the bimanual touch, with or without anesthesia He did not advise the Battey operation for dysmenorrhea, except when due to structural disease of the ovary

As to what extent we ought to disturb the ovaries for uterine disease, he thought such an operation of well recognized value in the treatment of small interstitial uterine fibroids In such cases the prevention of a possible pregnancy is another argument in its favor When a Cæsarian section is made for a seriously contracted pelvis, the essayist would advise tying the tubes and leaving the ovaries The detection and thorough removal of the ovaries in cases of uterine fibroids of much size, is always difficult and the results very uncertain Uterine displacements not otherwise remediable may be relieved by surgery In such cases the appendages should be removed if found to be diseased The uterine appendages should be removed when seriously and hopelessly involved in disease A partly diseased tube may recover if well emptied after abdominal section, by aspiration or the passage of a probe into the ampulla followed by finger compression Purely catarrhal salpingitis, the most frequent form, never needs section, cases of hydrosalpinx usually do hematosalpinx and pyosalpinx almost always In the way of medicinal and hygienic treatment, the essayist advised rest in the recumbent posture, purgation early in acute cases by the use of salines Daily movements should be secured Counter irritation, with small fly blisters, do good in chronic cases Cold or hot applications are best for acute cases Sthenic cases may be given minute doses of aconite or veratrum viride Generally no internal medicine equals quinin Opium is to be avoided as much as possible, and is best given in rectal suppositories made of the aqueous extract Specific cases call for the hot sublimate douche otherwise boric acid is preferable For chronic cases no medicament is superior to ichthyol diluted with boroglycerid Churchill's tincture of iodin may be applied to the vaginal vault in such cases As a rule minute doses of bichlorid of mercury are preferable to the use of iron The bromids diminish pelvic congestion and are sexual sedatives Hemorrhagic states of ovarian origin may call for sodium bromid In old cases the use of electricity may resolve pelvic exudates, relieve pain and control local neuroses

Salpingitis is almost always an outcropping of an endo tritis In such cases the uterus should be curetted and packed Follicular ovaritis should not be mistaken for cystic degeneration In cases of cystic degeneration of the ovary, a simple puncturing of the larger cysts, after section, will answer for not a few cases Most cases require no surgical treatment The essayist advocates saving as many and as much ovarian structure as practicable, but believes it rare that the corresponding tube may be saved The uterus and appendages should be removed when the uterus is so contaminated with disease that it is advisable to cut off the whole septic field and give full drainage Thus, the operation is called for in post puerperal cases, next in specific, and least frequently in septic non puerperal cases

After all abdominal sections for supposed diseases of the uterine appendages, we should carefully inspect them for macroscopic evidences of disease Only such parts of the appendages, the ovaries in particular, should be removed as may be hopelessly diseased The healthy side should not be disturbed unless for good and sufficient reasons Slight cystic degeneration or cirrhosis of the ovaries is insufficient grounds for their extirpation

In closing, the essayist inquired Has as much consideration been given to the salvation of the uterine appendages as is devoted to the preservation of the analogous organs in the male?

Dr C L **Bonnifield** believed that if more attention were paid to the acute inflammations in the beginning the abdominal operators would have less to do He would not recommend the removal of the ovaries to stop the growth of tumors Myomectomy and hysterectomy have been so perfected that they are much more safe than formerly, and after such operations the trouble is absolutely cured The removal of the ovaries will stop these growths only when they can be removed the easiest The woman never feels completely contented as long as she feels she has a tumor Whether or not to remove the ovaries when the uterus is removed, is a question that is as yet *sub judice* He agreed with the essayist that the ovaries should not be removed for nervous diseases, unless we can prove that they are diseased A few cases have been reported cured by the removal of the ovaries, but such cases would probably have been cured by any extreme method, which would have produced considerable shock upon the nervous system He had never seen a case of uterine hemorrhage, not attended by fibroid, which could not be controlled in some other way

Dr **Rufus C Hall** thought that frequently we erred on the wrong side in our enthusiasm to save one ovary or as much as possible of an ovary Where we are obliged to remove one ovary for disease that is not infectious, we may often save the opposite ovary or part of an ovary But such great conservatism is not justifiable in pus cases, either gonorrheic or septic Dr Hall had, on a number of occasions, left an ovary or part of an ovary with apparently good immediate results, but months or years afterward he had been obliged to remove the ovary left at the first operation, even in non infectious cases Five or six of his patients, in whom an ovary or piece of ovary was left, have since borne children Dr Hall did not believe it safe to leave the opposite tube in cases of pyosalpinx He had never seen a pyosalpinx on one side with a perfectly healthy ovary and the tube on the other side In cases in which there is a prolapsed ovary with a retroverted uterus, the condition should be corrected before the long continued engorgement causes adhesion

Dr A W **Johnstone** had recently operated upon two cases in which there was only a papillomatous degeneration of the ovary to account for one to three pints of fluid in the pelvis He believes that much of the trouble usually ascribed to the menopause is due to American gout Often there is the history of English gout in the ancestry If these attacks appear after the production of an artificial menopause, they would appear at any rate a few years later, after the natural menopause He did not think it prudent to leave a piece of the ovary for the purpose of not bringing on the menopause which only holds out the prospect of holding another ovariotomy to get it out

Dr J M **Withrow** heartily endorsed the conservatism in gynecologic surgery recommended in the paper of the evening, and believed there could be no question as to the utility of the removal of the ovaries for fibroids or bleeding of the uterus The reported successes following the removal of one or part of one or both ovaries, even in cases of septic infection, certainly justifies a trial He believes that the artificial menopause is much stormier than the natural menopause, and had never seen a case in which he felt constrained to remove the ovaries for dysmenorrhea, but he could conceive that such cases might exist

Dr **Edwin Ricketts** thought conservatism could be carried too far He compared the conservatism of the essayist to the wave of conservatism that followed the general adoption of ovariotomy In no case is the vaginal route to be preferred for the removal of the ovaries and tubes When there is a hematoma of one ovary, it is better to remove the other even though it may appear healthy at the time Dr Ricketts had seen cases of fibroids develop in spite of the removal of the appendages, and total extirpation later became necessary

Dr E **Gustav Zinke** paid high compliment to the paper of the evening He objected decidedly to the statement, by the previous speaker, that the ovaries and tubes ought never be removed by the vaginal method He had operated on a number of so called pelvic abscesses by the vaginal route entirely He had a record of at least twelve cases in which he had evacuated the pus through the posterior cul de sac All the patients recovered without any difficulty, and at least one of them has since given birth to a child Of course, pyosalpinx can not be dealt with readily by the vaginal route

Dr **Palmer**, in closing, stated that he had been prompted to write the paper by the realization that oophorectomy and salpingo oophorectomy are done too frequently Too many ovaries are now stored in pickling pots, which ought to be where nature first placed them In some cases Dr Palmer had secured good results by the curettage of the uterus in old cases of periuterine inflammation

PRACTICAL NOTES

Dry Sterilization of Instruments —Metal cylinders of various lengths and sizes are used at Frankfort to hold the forceps and everything required in obstetrics They are placed in a dry sterilizer or the oven of the cook stove and sterilized dry The cylinders are not opened until needed and the instruments are not injured in the least by the process —*Munich Med Woch* , October 25, from *Cbl f In Med* , No 40

Iodin in Gonorrhea —The vagina is cleansed with boricated water, dried and painted with pure tincture of iodin every two or three days with injections of an iodized solution three or four times a day, and the lumbar and lower abdominal regions painted with iodin After the inflammatory symptoms have subsided, a mixture of one part pure iodin to two parts glycerin is applied to the cervical canal If the uterine cavity has been invaded, the surface is painted with the iodin after dilation of the neck He also administers iodids internally —*Semaine Méd* , November 9

Puncturing the Intestines —Quevado suggests puncturing the intestines through the inguinal canal in case of threatening meteorism, as free from all the objections urged against puncturing in such cases The idea was derived from observation of the postmortem emphysema in the scrotum and vulva —*Cronica Méd Mex* , November 1

Phenocoll in Malarial Fever —Cesare Monduri reports satisfactory results with this drug in febrile conditions diagnosed as malarial The doses of the hydrochlorate vary from 1 5 grams to 2 grams daily for adults and from ⅓ to 1 gram daily for children —*Am Gyn and Obstet Jour* , November, 1898

Kil, the Russian Mineral Soap —A natural mineral soap is found around the Black Sea which is much used for sea baths, and after calcining, forms an excellent vehicle for salves, etc It is composed essentially of silica, alum, ferric oxid, chalk and magnesium carbonate Veliamovitch recommends it for cleansing purposes when ordinary soap is not tolerated, as in acute eczema, etc —*Semaine Méd* , October 26

Peroxid of Hydrogen —A recent communication based on five years' experience and much experimental work, lauds peroxid of hydrogen for its microbicidal and hemostatic properties, which "entitle it to the front rank in medico surgical therapeutics, and especially in affections of the mouth and throat" It is absolutely harmless, while more strongly antiseptic than sublimate As a hemostatic it should be indispensable to surgeons —*Bull de l'Acad de Méd* , October 31

Sodium Bicarbonate for Hiccough —A recent communication to the Paris Académie de Méd reports that hiccough has always been arrested, in the long experience of the writer, with 5 grams of sodium bicarbonate in half a glass of Vichy water taken at one draught The hiccough disappears with the eructations —*Bulletin*, October 31

Reviving the Apparently Dead —Tuffier and Hallion suggest opening the thorax and rythmically compressing the heart with the hand, after all other means of artificial respiration have failed They have succeeded in this way in reviving dogs chloroformed until all the movements of respiration and heart action had completely ceased In a few moments the heart commences to contract spontaneously and the respiration becomes re established —*Semaine Méd* , November 2

Orthoform in Vasomotor Rhinitis —Lichtwitz and Sabrazès ascribe the different forms of vasomotor coryza hay fever, nasal hydrorrhea, etc , to hyperesthesis of the pituitary gland This can be controlled, temporarily, by cocain, but orthoform is far more effective, its influence lasting, and free from the dangers and inconveniences of cocain They mention, among other observations, the case of a man 34 years of age, with periodically recurring nasal hydrorrhea, sneezing, etc , for six years A single insufflation of orthoform with a Kabierski insufflator cured him in the midst of an attack, and when seen last he had had no recurrence (*Presse Méd* , October 12) To prevent coughing from the dry powder, *vide* JOURNAL, p 1306

The "Block Bed"—The inconvenience of raising a patient to apply a bandage or cast under certain parts of the body is obviated by Professor Folet's device of having the patient lie on a set of blocks of various sizes but all exactly ten centimeters high, packed close together on a table The idea was suggested by a doll lying on an uncovered box of toy blocks One or more of the blocks can be removed without disturbing the patient and allow the hand or bandage to be placed around the part without the slightest inconvenience He has the seventeen blocks in his set made hollow, like drawers turned upside down, being thus light to move, and easily packed away when not in use The weight of the patient keeps them from slipping around under him —*L'Echo Méd* , October 23

Infantile Meningitis —Carbajal writes to the *Revista Médica*, October 15, describing his successful results with a blister applied to the occipital region at the commencement of the second or paralytic period in this disease He uses Autenrieth's salve and croton oil, 30 to 4 gm , every four to six hours until the surface is blistered and suppurating, after which the suppuration is kept up with some simpler salve He ascribes to this measure the recovery of all his cases since employing it, combined with the usual therapeutic measures, avoiding narcotics

Resection of Deformed Nasal Septum —Escat resects a C shaped septum without perforating it completely, by injecting, after cocain, enough water to separate and distend the mucous membrane from the cartilage on the convex side (they are easily detached in the young) He then resects the convex side, including the protuberant cartilage and its membrane, at one stroke, leaving the membrane on the concave side intact Gauze tamponade for twenty four hours controls hemorrhage, and the operated side is soon regenerated on the membrane support —*Munich Med Woch* , October 25

Massage for Post operative Ileus —Haberlin has found massage through the rectum and even of the entire abdomen, very effective in promoting the passage of gas and feces after celiotomies, etc., preventing adherences and assisting convalescence He reports one case in which an intestinal loop was evidently becoming incarcerated in the Douglas pouch, which he released by energetic massage through the rectum He considers the fears of hemorrhage, etc , unfounded but advises as a preliminary the usual therapeutic measures —*Cbl f Gyn* , 42

Ferric Chlorid in Dermatomycoses —Martin has found ferric chlorid very effective in curing pityriasis versicolor Two or three applications of the following suppress every trace of the affection , dry ferric chlorid 5 gm , gutta percha 2 gm chloroform 20 gm For external use Remove the traces of the gutta percha with 10 per cent alcholized water He also cures erythrasma with one part chlorid to 4 parts collodion and the inflammatory form, with a solution of 30 gm dry ferric chlorid to 70 gm glycerin Cures in ten days Trichophytiasis is also cured in an average of twenty five days with salves or collodion applications of ferric chlorid The stains on the skin can be removed with a solution of sodium carbonate 6 gm , glycerin and water āā 30 gm —*Semaine Méd*

Inefficacy of Cerebral Inoculations in Tetanus —Recent experimentation at Rio Janeiro has confirmed the extreme sensitiveness of the nerve cell to the action of the toxin and the protoplasm of the cell If the toxin and antitoxin are injected combined, at the periphery, the stimulating effect of the latter in arousing the organism to defense, is felt before the toxin reaches the brain, and there is no infection , but if the infection has already reached the brain, the antitoxin is powerless to affect the results, whether inoculated at the periphery on in the brain itself —*Tribuna Méd* ,August 15

Chronic Nephritis —Lemoine treats chronic nephritis with the following powders lithin benzoate 50 cgm , betol 25 cgm , sodium bicarbonate 20 cgm Make twenty similar powders, and take two or three during the day, between meals If the urine occasionally becomes scanty and brownish with a few red corpuscles, he resorts to tannin tannin and pulverized cinchona āā 50 cgm , for one powder Make twenty similar powders and take two powders a day with the meals, or, if the patient dislikes to take powders, it can be administered as follows tannin 250 cgm , glycerin 30 gm , and syrup of bitter orange 120 gm Take four to six tablespoonfuls at the commencement of the meals This treatment should be kept up a long while, suspending it one week in four He sometimes alternates the lithin benzoate and the tannin, a fortnight each —*Semaine Méd* , October 26

Cystorrhaphy by Imbrication —Juvara suggests suturing the bladder after suprapubic incision, by imbrication, that is, by overlapping stages, like tiles on a roof The suture heals more rapidly by first intention, owing to the greater surface expanse, and he claims that it responds to every ideal requirement His tests on dogs, which are exceptionally liable to infection from such a cause, as their bladder is located in the peritoneum, all proved extremely successful, even without the use of the sound Experiments on cadavers showed that this method is exceptionally simple if the peritoneum is protected by pulling the upper part of the posterior surface of the bladder out through the wound with the fingers —*Bull de la Soc de Chir* , Bucarest, 1898, 1

Cutting the Umbilicus —Sehrwald observes that the usual haste to sever the umbilicus results in the loss to the child of a large amount of blood to which it is entitled, sometimes reducing the blood in its circulation from the 158 grams it should have with a weight of six pounds, to 58 grams He ascribes to this fact many cases of infantile weakness and lack of resistance to disease congenital valvular insufficiency, etc The cord should never be cut until all pulsation has ceased and this applies with extra force to the apparently dead, in whom the circulation should be stimulated with warm compresses on the heart and the centers of heart and respiration action at the back of the neck When the cord pulsates proceed to artificial respiration in the usual way, with the arms —*Deutsche Med Woch* September 8

Cellordin—In the *Med Press and Circular* for August 31, a writer states that the question of abdominal drainage incidentally involves the question of wound drainage in general and the same arguments apply If at the moment of operation the wound could be sealed with an air tight material, which would remain so until healing was complete, primary union might be reckoned upon With the new dressing, cellordin, described by Mackenzie in 1896, a transparent closely adherent film can be applied which has the advantage of contracting Stanmore Bishop has reported three cases out of a large number to illustrate its advantages They are ovariotomy, removal of appendix, and suprapubic lithotomy Union by first intention was obtained in all, under one dressing If perfect asepsis has not been secured the transparency of the dressing enables the place where it is faulty to be seen

Tremor Toxin and Antitoxin—Adamkiewicz considers that the pyramidal tracts inhibit the action of the muscles and the posterior columns incite it The decay of the function explains the ataxia in tabes and the rigidity in lateral sclerosis The attempt to move the rigid muscles results in tremor, which can therefore be considered the result of both anatomic and functional lesions of the pyramidal tracts The tremor in the chill of commencing infective diseases is induced by the effect of the toxin on the pyramidal tracts As this chill has a particularly deleterious effect on the organism, some means should be sought to arrest it He has found that the addition of carbolic acid to neurin (C_5H_3NO) will deprive it of its tremor producing property while not affecting its other toxic effcts, and he suggests that it may be possible to separate the tremor producing property of the toxin in acute infective diseases from the rest, and paralyze it in a similar manner —*Berlin Klin Woch*, October 3

Arsenic as an Alterative—Dr T W Schaeffer, in the *Charlotte Medical Journal*, says that arsenic increases the elimination of nitrogen by the simultaneous diminution in the absorption of oxygen and elimination of carbon dioxid, and causes in this way a fatty degeneration of the organs It appears that under the influence of this poison fat is formed from the proteids The nitrogen, with a small proportion of carbon, is dissociated from the proteid molecule, and the nitrogen free residue is deposited as fat in the tissues So that the so called "alterative" rôle of arsenic in therapy may be described somewhat more modernly and intelligibly arsenic is, in fact, a carrier of oxygen, it is an oxidizer and a deoxidizer Hence, we judge, its beneficial effects, when taken internally in small doses, in exerting a tonic effect upon the nervous system, improving the quality of blood, being an excellent hematic of great value in ague and chronic malarial disorders, promoting digestion, and this explains why it can often be relied upon in the many forms of dyspepsia —*N Y Med Jour*

Treatment of Asystole—Professor Huchard's treatment of heart disease consists of rest in bed, milk diet, and if the heart is much dilated, venesection After two or three days of this preparation a purgative is administered scammony 50 cg; calomel, 20 cg, in two powders, taken with half an hour interval The day following, the patient is ready for digitalis, and all danger of intoxication is avoided by not allowing the drug to accumulate in the system He insists upon the crystallized digitalin 40 to 50 drops of the alcoholic solution of the Codex, at 1/1000—50 drops corresponds to a milligram of crystallized digitalin In a few hours the edemas are absorbed and diuresis is established Three days later, if the improvement is not sufficiently pronounced, 25 to 30 drops are administered, and this dose is repeated at intervals of ten to twenty days, for several months, if necessary, respecting the long intervals Small doses, closer together, are the reef on which the average practitioner makes shipwreck —*Gaz Méd de Liége*, October 27

Faradism for Chilblains—Dr Forbes Ross of London was led to try the following procedure for the relief of chilblains, and has had invariable success during several winters Relief has been prompt in every instance Having ascertained and localized the focus of each chilblain, resort was had to the application of the secondary current of a Faradic battery, increasing the current gradually to high strength The application must be made directly to the affected part, i e, both poles must be in contact with the affected area, separated only by the area occupied by the chilblain itself Having first previously dipped the electrodes in saturated sodium chlorid solution, maintain the application of the current to each chilblain for from five to fifteen minutes If the chilblains be watched during the application of the current the tissues will be seen to gradually blanch and the anemic area due to the pressure of the electrodes will be seen to creep outward, even though care be taken not to increase the pressure This blanching begins after about five minutes of the passage of the current The result of this procedure is that the itching is completely and promptly stopped by the first application, and a second, one or two days afterward, usually suffices to effect a cure Seldom, if ever, does a third or fourth application become necessary He has never in a single instance, in an extensive trial of this method, known it to fail to effect a cure in three or four days, to the great delight and gratitude of the victim The treatment is handy and rapid —*Lancet*

Gelatin in Aortic Aneurysm—Lancereaux of Paris, has made use of a solution of gelatin dissolved in an artificial serum for the hypodermic relief of aneurysm In a paper before the French Academy of Medicine (London *Lancet* for October 22), he reported the results in several cases One of his patients had an aortic aneurysm which projected anteriorly Subcutaneous injection of a solution of gelatin in artificial serum was made, and the patient recovered Some time previously the blood had escaped from the aneurysm and coagulated just under the skin, the patient's state was very critical, but injections of gelatin promptly brought about coagulation of the extravasated blood In the second case the patient suffered from aneurysm of the aorta which had not come to the surface By means of the gelatin injection treatment all the pain disappeared and the dilated superficial veins diminished in volume Lancereaux has treated by this method many aneurysms of the aorta and one subclavian aneurysm with similar success Two other patients who suffered from aortitis and dilatation presented, however, no amelioration They died and the postmortem examination showed that no coagulation had taken place in the dilated portion of the artery The operative proceeding was as follows A solution of 2 gms of gelatin in 100 of saline solution is made and this is injected under the skin of the thigh into the subcutaneous cellular tissue in a dose of 250 c c The injection is renewed at varying intervals of time —every two days to fifteen days As a rule, 10, 15, or 20 injections are quite enough to obtain a complete cure The communication of these researches gave rise to a long discussion at the Academy, in which M Huchard, Professor Hayem and Professor Fournier took part M Huchard had employed the method of M Lancereaux in many cases, one of which was very serious, the pulsation of the aneurysm being very strong A complete cure was obtained by means of 20 injections, and the sole inconvenience attaching to this treatment was that it was very painful In a patient suffering from phthisis with constant hemoptysis due to little aneurysms of the kind described by Rosmussen, M Huchard employed the same treatment and succeeded in stopping the hemoptysis This, however, did not prevent the patient from dying later from pulmonary tuberculosis Certain precautions have to be preserved in this method of treatment, for a patient under the care of Boisset, in whom injections had been made on a very small scale lest the blood should coagulate all at once, died very suddenly from embolism The injections must never be made in the neighborhood of the aneurysmal sac, and still less into the aneurysmal sac itself

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE, INCLUDING POSTAGE
Per Annum in Advance $5 00
Foreign Postage 2 00
Single Copies 10 Cents
In requesting change of address give old as well as new location

Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION
No 61 Market Street (Occidental Bldgs) Chicago Illinois

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION

This is obtainable, at any time by a member of any State or local Medical Society which is entitled to send delegates to the Association All that is necessary is for the applicant to write to the Treasurer of the Association Dr Henry P Newman 100 Washington St Chicago Ill sending him a certificate or statement that the applicant is in good standing in his own Society, signed by the President and Secretary of said Society Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership

On receipt of the subscription the weekly JOURNAL of the Association will be forwarded regularly

Gentlemen already members of the Association should send their annual subscription to the Treasurer or direct to the JOURNAL office

All communications and manuscript of whatever character intended for publication in the JOURNAL should be addressed to the *Editor* and all communications relative to the business of the JOURNAL proof sheets returned, or in regard to subscriptions should be addressed to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 61 Market Street (Occidental Buildings) Chicago

Original communications are only received with the understanding that they are exclusively contributed to this JOURNAL

SATURDAY, DECEMBER 3, 1898

THE ETIOLOGY AND CLASSIFICATION OF PERITONITIS

In the *Philadelphia Medical Journal* of Nov 12, 1898, Dr FLEXNER of Baltimore presents certain facts obtained by the postmortem study of a large number of cases of peritonitis in which careful bacteriologic examinations were made

Among the earlier studies of the experimental peritonitis, that of GRAWITZ in particular, as well as of others, has clearly defined the conditions that result in the development of peritonitis in animals GRAWITZ has also shown that these results are nearly allied to the natural conditions found in man He divided peritonitis into primary and secondary forms, the first accords with the so called idiopathic or rheumatic peritonitis In accordance with modern ideas GRAWITZ regards all forms of peritonitis as caused by micro-organisms Among the favoring conditions he mentions ,wounds communicating with the abdominal cavity and the accumulation of fluids in such quantities that it can not be absorbed in the natural manner Pathogenic organisms may be introduced directly, or may be brought by the blood or lymphatic current Secondary peritonitis is more common, occurring under a number of conditions, bacteria being introduced by contiguity This group includes the peritonitis of puerperal infection, of intestinal gangrene, and perforation

FLEXNER finds that many of the cases which GRAWITZ regarded as a primary peritonitis were in reality secondary indeed only those cases in which chronic renal cardiac, or hepatic disease pre existed are convincing examples of the primary form

TAVEL and LANZ, in their exhaustive study of peritonitis from a bacteriologic standpoint, attempted to answer the question whether peritonitis is or is not a multiple infection, and they conclude that the hematogenous forms are mono-infections, while those forms that proceed directly from the diseased organs are generally poly-infections

The statistics upon which Dr FLEXNER'S report is based include 106 cases of peritonitis The bacteriologic examination included was made by means of plate cultures Several classes can be distinguished Thus, one might divide them into primary and secondary forms By secondary peritonitis FLEXNER would understand those following operations upon the peritoneum or the organs which it contains, and those in which the infection of the peritoneum takes place from diseased viscera within it It is preferable to call all infections of the peritoneum in which the micro-organisms are brought by the blood or lymph current, without the intervention of some diseased organ or part, as primary The organisms may reach the peritoneum by the blood or lymph current although it is conceivable that they could pass through the intact intestine, yet convincing proof of this possibility has not yet been furnished

Of the 106 cases, twelve presented the characteristics of a primary peritonitis, in all of these there were previous chronic diseases In nine instances there was a single infection, in one instance a multiple infection The most common organism was the streptococcus

The secondary forms are far more frequent than the primary, and of these at least two classes can be distinguished, dependent upon the mode of infection The first class may be designated as exogenous peritonitis, here the microbes enter from without The condition is really one of wound infection Of the 106 cases, thirty-four belong to this group Twenty five were single, nine multiple, infections, and the bacteria concerned were chiefly the pus microbes, showing a striking similarity with the conditions of ordinary surgical infections, the only difference being that the bacillus coli commune was present in a few cases, being alone in two, combined in five

The second class of secondary peritonitis FLEXNER terms endogenous, in these the bacteria come partly or wholly from the intestinal tract, and they are therefore chiefly multiple infections This is the common form of infection it is represented in this series by sixty cases, in only two of which the bacteriologic examination gave negative results The single infections were relatively more infrequent in this form, and the micro organisms found differed widely from those in the exogenous variety The bacillus coli commune assumes a much more important role and the streptococcus is much oftener present FLEXNER believes that one must concede to the colon bacillus the possibility of producing suppuration

While the examples of primary or idiopathic peritonitis in this series were really instances of terminal infections in connection with chronic diseases, it is also found that in the twenty-five cases of the exogenous peritonitis twenty-six presented pre-existing more or less chronic diseases of familiar varieties It therefore becomes necessary to recognize that infection of the normal peritoneum may depend not only upon local but also upon general predisposing causes

Flexner does not see his way clear to definitely establish a group of so called aseptic or chemic peritonitis, as advocated by Bumm, Tavel and Lanz, and yet he would not deny its occurrence

From this extensive material it becomes certain that the primary or idiopathic forms of peritonitis are limited to a rather small number of instances that belong to terminal infections, that a second variety of peritonitis conducts itself very much like surgical infections, and that conditions that predispose to infections in general are in operation here also, a third variety is dependent upon disease in an intraperitoneal organ, which brings pathogenic organisms as well as other substances directly or indirectly into the abdominal cavity which becomes infected from within

THE MODE OF SPREADING OF BUBONIC PEST

P L Simond[1] summarizes a careful research concerning the mode of spreading of bubonic pest in the following important conclusions The study shows that the pest is spread by two principal factors—the rat and man Man is the ordinary agent of transport for long distances, which could not be attained by the rat, the rat is the carrier from house to house It is much more important in this respect than man, and plays the essential rôle in the dissemination of the disease in local epidemics

When pestiferous rats enter a new district there is usually some delay before the disease appears in epidemic form, the arrival of infected human patients into a new territory is not always followed by epidemics of pest In order that epidemics may be established there must be a circle of favorable circumstances, among which the preliminary transmission of the virus to rats seems to be the most important The period of incubation represents the time necessary for the development of the disease among rats

The gravity of a human epidemic stands in close relation with that of the epidemic among rats The progress of the disease throughout the city follows the route adopted by the migrating rat Even when the disease is no longer associated with a great mortality among the rats, it may continue to exist in a benign form, and the so called sporadic human cases, which manifest themselves after the subsidence of an epidemic, may be attributed to this benign form in the rodent

A second epidemic of the disease usually manifests itself about twelve months after the appearance of the first, from which it is separated by a longer or shorter period of calm The reason of this periodicity in the epidemics is not determined It is undoubtedly connected with the re-establishment of the disease in epidemic form among the rats, and depends in part upon the repopulation of the city involved by these animals Careful experiments have shown that their is but little danger in the spread of the disease from infected organs or food

In a certain proportion of cases the point of entry of the microbe is marked by local reaction which is generally situated in a region where the skin is thin and delicate When this local reaction, as well as the swelling of the regional lymphatic glands, fails to appear, then it is to be attributed to the great virulence of the micro-organism, and not to a different mode of entrance

The notion that the transmission of the disease depends upon larger parasites is in accordance with the observations made on rats, a few hours after a rat dies from the disease the fleas abandon the cadaver in order to attach themselves to other animals and to human beings The points here referred to are strengthened 1 By the presence of the specific micro-organism in the contents of the intestines of the fleas which have absorbed infected blood 2 By certain facts in connection with the transmission of the disease from the rat to man and from man to rat In the last instance it is possible also, that other parasites of the same class as the flea may act as carriers 3 By the possibility of the transmission of the pest to a healthy rat by cohabitation with a rat covered with pestiferous fleas, whereas cohabitation with a rat sick of the disease but deprived of fleas is constantly harmless

Finally, it may be stated that the mode of spreading of bubonic pest comprises the transport of the micro organism by the rat and by man, its transmission from rat to rat, from man to man, from man to rat, and from rat to man by parasites The prophylactic measures should be directed methodically against each of these three factors, the parasites, man and the rat

EPILEPSY AND INSANITY

In the *Philadelphia Medical Journal* of November 19, Dr J H McBride, the well-known alienist, criticises a statement made in an earlier issue by Dr Frederick Peterson, that less than 10 per cent of ordinary epileptics become insane He holds that a large proportion of the chronic epileptics suffer from a more or less marked condition of dementia, and still more frequently from temporary mental perversions, often dangerous, and there is further a special mental condition characteristic of those afflicted with this disorder or symptoms that might, it would seem, be reckoned as insanity, since, as he says, it puts the great majority of them so far out of relation to their environment as to render them incapable of self support He believes "that, with rare exceptions, habitual epileptics suffer sooner or later from some degree of mental impairment," not always amounting to insanity, but sufficient to incapacitate them for independent self support, and that a prognosis of mental failure is always justifiable if the fits are not arrested within two or three years The fits are only indications of a morbid condition that involves the patient's whole mentality and mixes with all he does and is

---

[1] Annales de l'Institut Pasteur, xii, 1898

These facts are important, if true, and the difference of opinion, or perhaps one should rather say of point of view, of these two eminent specialists renders them the more worthy of consideration Dr PETERSON has apparently much the same opinion as his critic as to the disadvantages of the epileptic in the struggle for existence, but he looks upon epilepsy more as a disorder, that, like deafness or blindness or any other disabling defect, often incapacitates its possessor for employment in ordinary occupations without necessarily putting him in the category of the actual insane A certain degree of mental impairment may even be admitted as a common result of the attacks without rendering it necessary to consider the patient insane, and he probably would admit as much—the difference of the contesting views is therefore somewhat diminished There is no doubt that habitual epilepsy is dangerous to mental integrity, understanding by the word "habitual" a marked frequency of the attacks with their very commonly associated temporary mental obscuration or dullness, which of itself in any single fit may be no more marked than that connected with a migraine attack or even an ordinary headache

This limitation of the meaning of the term, "habitual," however, somewhat alters the case, there is a large proportion of epileptics who would hardly fall under Dr MCBRIDE's definition or conception apparently of the term There is, first, a considerable number who can hardly be excused from the epileptiform category, in whom only one or two fits may occur in a lifetime—their cerebral instability is so slight that it is only under conditions of special stress that the explosive manifestations can occur These are perhaps more numerous than is commonly supposed There is also a second class, in whom the epileptiform manifestations have been confined to special periods of their lives, and while well-marked and frequent at such period, have entirely ceased under proper treatment and removal of the cause These cases are not numerous, but they exist and have to be considered One such case was known to the writer that after having had a number of attacks at one time in his life, afterward rose through his own merits and endeavors to a very high position, one such as few are able to achieve or satisfactorily fill Such instances [illegible] exceptio[illegible] it is true, but how far they may [illegible] amc[illegible] such temporary epileptics no one can say There is still a third small class of epileptics in whom the fits may be called habitual, though they are not usually very frequent whose mental failure does not show itself, at least until later in life and sometimes is never very apparent While as a class they are seriously handicapped by their affliction, some of them succeed in holding their own in life's competition and these are they to whom Dr MCBRIDE probably alludes as exceptions so rare as to be hardly worth considering in a discussion of epilepsy The first two classes are hardly recognized as epileptics at all except by those who know their whole history, and naturally such are few in number

Taking all these three classes together they must form a considerable percentage of the total number of epileptics The first two there is reason to believe are more common than is generally realized, they fall for the most part into that great majority which Dr MCBRIDE assumes are probably never seen by specialists While Dr PETERSON's estimate of the number that go insane may be too small, it seems equally probable that any very extensive generalizations in the opposite direction are equally liable to be in error

A word may be said here as to the special mental character credited to epileptics It is natural to suppose that any such morbid cortical irritability as can produce the phenomena of epilepsy might easily affect the disposition, but it is not a universal fact that all epileptics are abnormal in this respect Some few of them indeed are very far from it, and the characteristic epileptic character may exist where no genuine symptoms of epilepsy can be discovered It is hardly a positive criterion of the disease, though in some form or other common enough to be noticeable in perhaps a great majority of pronounced chronic cases

In conclusion it may be said that it requires a rather broader conception of insanity than is commonly admitted to apply it to epileptics generally, or even to all the chronic cases in their later developments They are unfortunates to some extent mentally impaired in a large proportion of cases but it is as easy to overestimate the frequency of such defect as to underestimate it In criminal cases this possibility would be very liable to be brought forward whether rightly or not is not always easy to say while apart from this contingency their sanity might never be in question

THE ENGLISH AND AMERICAN ARMIES IN THEIR RECENT CAMPAIGNS

Without any desire on our part to belittle the sufferings of the United States troops in the recent Spanish War in the sense that we are desirous of withho[illegible] the credit for bravery which they d[illegible] ng, [illegible] of the suffering was one of the necessities of the war rather than that due to carelessness or criminal negligence of those who are in authority. This country had been so long blessed with peace, and its people had been for so long unacquainted with the conditions which necessarily arise before, during or after battle, that they had not provided sufficient means for meeting emergencies, and did not at first grasp the impossibility of carrying on an active campaign without the surgical failures which, however much they may be deplored, were to a great extent unavoidable.

Some of our English friends have undertaken to suggest to us that it would be well for American officers to take lessons from their English cousins as to the management of medical and food supplies for an army in the field, and have intimated that much of the suffering of our troops could have been avoided, had our officers been properly equipped in medical details.

Those who have studied the almost simultaneous campaigns of the American troops in Cuba with the British troops in the recent Soudan expedition cannot fail to have noticed, notwithstanding the boasted efficiency of the medical arm of the British service, here again the necessities of war resulted in an amount of suffering far in excess of that which was produced by actual wounds. The amount of illness and death which ensued from disease rather than from surgical affections during this British expedition has been large, practically as large as that which has been experienced by our own army, and commanding officers have been unable to provide the wounded with the comforts which humanity would deem desirable. They have seemed to recognize that the object of the war is the speedy conquering of the enemy, and while not ignoring those who have fallen, have continually kept the main object of the expedition in view.

To those who are wont to attack the army administration at Montauk Point or elsewhere, an account which is given by a correspondent in the *British Medical Journal* of November 12, of the recent Soudan expedition, and entitled the "Seamy Side of War," is of interest. In this letter it is shown that in the first advance after the battle of Atbara last spring, indignant protests were made against the insufficient provisions made for the sick and wounded, and not until these protests were made again and again were they heeded in part, and then so late that the relief did not reach the front in time to be of service. Again, we are told that the wounded after this battle were carried so clumsily by native soldiers over rough ground that they frequently slipped and fell, causing torture to the sufferers, and that when English volunteers offered to carry the wounded their services were refused. Again, in the second advance on Omdurman, even greater hardships were suffered. A sudden order to advance, accompanied by one which insisted that hospital tents should be struck and packed within five minutes, left the surgeons with no place for their sick. Fortunately they found a barge stacked with ammunition, and on this 145 wounded men were hastily carried, with no medical supplies, no food except a few cans of beef extract, and no means of heating this. These wounded men were stumbled over by the Egyptian troops rushing for ammunition in frantic haste, and very shortly additional wounded men had to be squeezed on board until they were "packed like sardines," and the digging of graves being abandoned for lack of time, the dead had to be placed along with the living on the barge to prevent their mutilation, and there they remained, in the words of the correspondent, "emitting effluvia until the following day, when they were buried." Further than this, this barge was left without any military protection, and at any moment every one on board might have been massacred by the enemy. There were only three surgeons to attend to 145 wounded, and operations were done in the sun on piles of ammunition boxes, where the thermometer registered 119 degrees in the shade. We are also told that the Egyptian brigades fared worse than the wounded we have already mentioned.

Either because the English are accustomed to the suffering of their troops and recognize the seriousness of war, or because they are indifferent, which is not likely, their newspapers have not raised the so called howl of indignation which has characterized the pages of many American newspapers.

THE ARMY MEDICAL DEPARTMENT OF THE FUTURE.

The echoes of our alleged maladministration in military management, and particularly in medicomilitary matters, come to us from afar off. The *Lahore Civil and Military Gazette* of Oct. 6, 1898, gives credit to the Indian medical service for being one of the few departments which escaped scathing criticism during the campaign in Tirah, on the Northwest frontier. It has been generally admitted that the arrangements for the care of the sick and wounded in that campaign were, as a rule, "most complete and efficient," and that nothing was neglected that could relieve suffering or assist recovery, credit for this being given to the Indian Government, which spared no expense, and to the medical officers themselves for the excellence of their organization and their devotion to duty. The only unfavorable criticisms which appeared were some strictures in the English papers because the stretchers were not provided with awnings nor the field hospitals with the Roentgen-ray apparatus.

After inviting us to look on this picture, the *Gazette* presents us with another of the conditions in Cuba during and after the attack on Santiago. The contrast would have been sufficiently marked even if the second picture had been drawn from official statements instead of from the exaggerations and false reports which appeared as news in the extras of our great dailies during the progress of the war But the *Lahore Gazette* kindly recognizes the difficulties under which this country labored in expanding an establishment which was practically nothing more than a Federal police force into a military organization for immediate war purposes It recognizes also from some Indian experiences, what we have learned during the past few months that the lavish expenditure of money after the occasion has arisen is of little value when compared with the possession of an organization which has been prepared with care for just such an emergency

This country should have an army competent to cope with the possibilities of the future The Chairman of the Military Committee of the House of Representatives has been cited as suggesting 100,000 men as the strength of the army required It is useless to say that we can trust to the manhood of the American people when the occasion requires a resort to arms because we have seen how much unnecessary suffering is ordinarily involved in a sudden muster for war service With an increase of the Army should be associated an increase in the strength of its medical department, for the argument drawn from experience against a hastily organized fighting force applies with equal strength to a hastily organized medical department for the care of that force

The medical department of the Army at the present time consists of 192 officers This number did not suffice for the needs of our Army of less than 40,000 men, scattered as it was at many small posts before the outbreak of the recent war When war was declared, authority was given to raise the strength of the regular regiments, and there is now or soon will be a strength of about 60,000 men To meet this increase, the SURGEON-GENERAL, at the close of his annual report, recommended the addition of 88 medical officers to the present force, but he added that this recommendation was based upon present needs, and was irrespective of any increase that might be rendered necessary by legislative action during the coming session of Congress

The white troops of the British Army, 200,000 strong, have a medical force of about 800 officers, but the contingent on duty in India has often to be assisted by officers of the Indian Medical Service, the corps specially organized for duty in native hospitals and with native regiments The Army of Spain has a medical force of 900 officers to a strength of 100,000 men, this large force being required, probably, by the prevalence of disease among the troops in the Island of Cuba Russia has about 400 medical officers of all grades for every 100,000 of its army of nearly 900,000 troops We may consider therefore that a medical force of at least 450 will be necessary for an army such as that suggested by the Chairman of the House Military Committee, and this appears to have been the view taken by SURGEON-GENERAL STERNBERG in recommending an addition of 88 officers to his present force of 192 for the needs of the present strength of 60,000 men, 280 for 60,000 is in the proportion of 466 for 100,000

In forming a corps of 450 medical officers having the same proportion of the various grades as the smaller corps now in the service, there should be one major-general, the surgeon-general 1 brigadier-general, as assistant surgeon-general 14 colonels, as deputy surgeons general, 24 lieutenant-colonels, as chief surgeons, 120 surgeons, majors, and 250 assistant surgeons, captains and lieutenants The Chief of the Corps, in view of his responsibilities, which are appreciated by the general public only in trying times like those of the recent war, should have the rank of major-general The criticism has often been made that the best men will not enter the military service because the prizes are so few, the highest rank attainable being that of brigadier general, and this reached only by the one man appointed as surgeon-general

It is hardly to be supposed that any difficulty would be experienced in filling up this enlarged corps with medical men having the proper qualifications With a larger army, a larger number of positions of relatively high rank as the reward for continued service, and a broader stage of existence opening up in the future, as compared with the dull life of the past at small Western posts, competition for position would no doubt be much greater than heretofore Besides, the taste of military life obtained during the past months by volunteer medical officers would also have its influence in filling up the medical positions of an enlarged army After the Civil War, little effort was made by volunteer surgeons to enter the regular army Many of them had, no doubt, got enough of war service during the long continued struggle, but the main cause was the want of vacancies Retrenchment and reduction of the military establishment followed the Civil War, instead of the expansion which seems needful to meet the present requirements of the country

An enlargement of the powers of the medical department is of as great importance to its efficiency as the number and grade of its personnel The Spanish War demonstrated the inability of medical officers however willing and energetic, to accomplish their object when dependent on others for essentials If medical officers are to be held responsible for the sick and wounded, they should be given powers commensurate with their responsibility Any bill for the enlargement and improvement of the medical corps should provide for its independence of the quartermaster s department It should have command of its ambulances, hospital tents wagons and of all the equipment necessary for the transportation and care of the sick and wounded of the army

We feel sure from the energy displayed at Santiago in trying to overcome the difficulties caused by inefficient quartermaster's management, that were medical officers their own quartermasters the *material* of the field hospitals would always be on hand where it was required unless interdicted for imperative military reasons by the commanding general

CORRESPONDENCE

The Jugglery of Statistics

WASHINGTON, D C , Nov 21, 1898

To the Editor —I had hoped that after Deputy Surgeon General Smart's reply to an absurd editorial on the "Jugglery of Statistics," which appeared in the JOURNAL of October 29, no one would seriously quote the mortality rates of the Civil and Spanish Wars, adduced by the *Philadelphia Medical Journal* of October 15, and yet the writer of the editorial on the "Caribbean Climate in its Medico Hygienic Relations" (JOURNAL, p 1249) committed this error

I cannot refrain, therefore, from referring the writer of the editorial to the article above referred to, and if still unconvinced he may profit by Dr Smart's letter on the "Vital Statistics of the War," which appeared in the JOURNAL of November 19 Respectfully yours,

GEORGE M KOBER, M D

The Commission Evil

ST PAUL, MINN , Nov 28, 1898

To the Editor —In your issue dated November 26 Dr Robert T Morris writes to inquire whether your editorial condemning the purchase and sale of cases is founded upon a knowledge of specific instances of this sort

I can not answer for the JOURNAL, but can assure Dr Morris that I know of at least a half dozen surgeons and physicians of excellent standing in the profession who in a subterranean way carry on this traffic

As an internalist I can not say that I have ever felt such competition, nor indeed do I know of any stricely medical man who pays commissions, but I have personal knowledge of a score of surgical cases in which fees have been paid or demanded

It has given me great pleasure to know that my protest against this indefensible practice, contained in a letter to the *N Y Medical Journal* of October 29, has resulted in bringing this matter into a prominence which must end in its complete annihilation Yours very truly,

CHAS LYMAN GREENE, M D

A Pair of Large Twins

FORT COLLINS, COLO , Nov 22, 1898

To the Editor —On Nov 7, 1898, I was called to attend Mrs C in confinement Found the abdomen enormously distended, and from the size and irregular shape I diagnosed probable multiple pregnancy In five hours I delivered her of a girl baby weighing ten and three quarter pounds, and four hours later of a boy weighing ten pounds Both children are strong and healthy The girl was delivered without assistance, but the boy had to be delivered with forceps Both were the left occipito anterior presentation There was but slight laceration, and aside from some rise in the temperature of the mother, during the first week, everything proceeded normally The placentæ were separate and small There is no history of twins in the family so far as I can learn The patient is 20 years of age, married one year and a primapara Fraternally,

Respectfully yours,

W A KICKLAND, M D

BOOK NOTICES

A Manual of the Practice of Medicine By FREDERICK TAYLOR, M D , F R C P Fifth edition Pp 1002 London J & A Churchill, 1898 , from P Blakiston's Sons and Co Philadelphia Price $4 00

This well known work is a short yet complete work on the practice of medicine and in the preparation of this fifth edition it has been very carefully revised and some sections rewritten, and notice of many diseases recently recognized or omitted from former editions have been added Among the former are the introduction of diseases of the nervous system, diseases of the blood and the subject of aphasia and ringworm In the latter are glandular fever, diver's paralysis, erythromelalgia, angeio neurotic edema, hypertrophic pulmonary osteo arthropathy, and tubercle of the skin A special section is devoted to diseases of the mediastinum, and filarial diseases and hemoglobinuria have been transferred to diseases of the lymphatic system and of the blood respectively

As only a little over eight years have elapsed since the first edition of this work was issued, the fact that five editions have been called for in the eight years attributes to the value and popularity of the work, beyond the powers to review or to increase or diminish the elements of its popularity, as will be seen by a perusal of the work Its comprehensiveness consists in the fact that no essential detail is omitted, and no superfluous words or phrases included, all excellent characteristics, as our readers will undoubtedly agree

Traumatic Separation of the Epiphysis By JOHN POLAND, F R C S 337 illustrations and skiagrams Pp 926 London Smith, Elder & Co , 1898 , New York, G P Putman's Sons, Chicago, A C McClurg & Co Price $18

The literature of this subject is quite extensive, although widely scattered, and the author has brought together and summarized the records heretofore published The following is the table of contents Chapter 1, Historic, 2, Anatomy, 3, Etiology, 4, Frequency of the Various Separations, 5, Experiments in Pathologic Anatomy, and their Histologic Anatomy, 6, Pathologic Anatomy, 7, Symptoms, 8, Prognosis and Results, 9, Treatment The remainder of the work is devoted to separation of the epiphyses of the upper extremity, separation of the epiphyses of the clavicle, separation of the epiphyses of the scapula, separation of the upper epiphysis of the humerus, separation of the lower end of the humerus before puberty, separation of the lower epiphysis of the humerus in youth, separation of the internal epicondyle of the humerus, separation of the external epicondyle, etc , separation of the upper epiphysis of the radius, thumb, metacarpal bones, phalanges, then follow articles on the separation of the epiphyses of the lower extremities, the pelvic bones, the femur, bones of the leg and of the foot The work concludes with articles on separation of the epiphyses of the vertebræ and ribs, and an appendix

There are 299 illustrations in the text, besides a vast number of skiagrams, showing the development of the bones

Few books have appeared in recent times of more value to the advanced surgeon than this, and the superb dress in which the publishers have presented it makes it a pleasure to peruse We can not too strongly commend this work, and congratulate the profession on the valuable addition to surgical literature which is here presented

Clinical Lectures on Mental Diseases By THOMAS S CLOUSTON, M D , Lecturer on Mental Diseases in the University of Edburgh New (5th) edition Crown 8vo 750 pages, with 19 full page colored plates Philadelphia and New York Lea Brothers & Co Cloth, $4 25, net

As the study of mental diseases has become compulsory on all medical students, good text books, arranged in a manner which leads to an easy understanding of the subject, are abso lutely necessary These qualifications are possessed by Clouston's work, which is suitable alike for the general physician and the specialist The advances that have been made in psychiatry in the two years that have elapsed since the presentation of the last edition have been incorporated There is one thing that always gives a charm to Clouston's works, i e , his honesty, modesty, and entire candor It is evident from a perusal of the pages of this edition that Clouston will continue to remain a constant favorite

A Pocket Medical Dictionary giving the Pronunciation and Definition of the Principal Words used in Medicine and the Collateral Sciences, including very complete tables of the arteries, muscles, nerves bacteria, bacilli and micrococci, spirilli and thermometric scales and a dose list of drugs and their preparation, in both the English and metric system of weights and measures By GEORGE M GOULD, A M , M D A new edition, entirely rewritten and enlarged, including over 21,000 words Pp 530, exclusive of dose table Philadelphia P Blakiston's Sons and Co , 1898 Price, $1

The confidence of the public in Dr Gould as a dictionary maker is such that they are largely ordered in advance, and different editions follow one another with such rapidity that it is difficult to keep track of them The present dictionary will be found extremely useful

A Quarterly of Clinical Lectures, Etc Edited by JUDSON DE LAND, M D J MITCHELL BRUCE, M D , DAVID W FINLAY, M D Volume III, Eighth series, 1898 Philadelphia J B Lippincott Company, 1898

This volume brings the clinic to the library of the practitioner, and many of the clinics are so literal that without a very great stretch of imagination one can almost see the patient being described by the clinician The practitioner who wishes to keep in touch with the latest advances in the practice of medicine, surgery and the specialties can do so no easier than by keeping up with the clinics as set forth in this admirable series

Hartley Auvard System of Obstetrics Revised by JOHN D HARTLEY Third (1898) edition, 436 pages, 513 illustrations New York Flint & Co , 101 Fulton St Cloth $4, leather or half morocco $5

In this work the author plunges in *medias res* without preface or introduction, and as far as possible diagrams are introduced to illustrate the author s views In the whole art of obstetrics he has brought it as near as possible to the mechanical basis The teachings are correct, and all unnecessary and extended discussions are omitted Practitioners and students will find this work of great value

A Text Book of Pathology By ALFRED STENGEL, M D 372 Illustrations Pp 848 Philadelphia W B Saunders, 1898, W T Keener, 52 Randolph Street, Chicago Agent Price cloth, $4, half morocco, $5 net

In this book the author has presented the subject of pathology from the point of view of the clinical pathologist Prominence is given to pathologic physiology , controversial matters and discussion of methods have been omitted as far as possible The work is divided into two parts, of which the first is on General Pathology, the chapters of which are as follows 1 Etiology of Disease 2 Disorders of Nutrition and Metabolism 3 Disturbance of the Circulation of the Blood 4 Retrogressive Process 5 Inflammation and Regeneration 6 Progressive Tissue Changes 7 Bacteria and Diseases due to Bacteria 8 Animal Parasites and Diseases Caused by Them Part 2, Special Pathology, is arranged as follows Chapter 1 Diseases of the Blood 2 Diseases of the Lymphatic Tissues 3 Diseases of the Circulatory System 4 Diseases of the Respiratory System 5 Diseases of the Gastro intestinal Tract 6 Diseases of the Ductless Glands 7 Diseases of the Urinary Organs 8 Diseases of the Reproductive Organs 9 Diseases of the Bones 10 Diseases of the Joints 11 Diseases of the Voluntary Muscles 12 Diseases of the Brain and its Membranes 13 Diseases of the Spinal Cord and its Membranes 14 Diseases of the Peripheral Nervous System

While not as exhaustive as many works on the subject it may be said that it fairly covers the ground, and so far as the ground is covered the work is well done and has been brought quite down to date

We are glad to see that weights and measures used in the book are according to the decimal system

The illustrations are excellent, and students as well as practitioners will find the work of great value

NECROLOGY

D A MCTAVISH, M D, died at West Bay City, Mich , November 17 The Doctor was born in Glencoe Ont in 1855 was graduated from Toronto University in 1881, was a licentiate of the Royal College of Physicians and Surgeons of Edinburgh, Scotland, and a member of the Michigan State Medical Society

CHARLES MASSEY HAMMETT, M D formerly health officer and coroner of the District of Columbia, died in Washington November 22, of chronic interstitial nephritis aged 63 years

JAMES S KELLY, M D , Archbald, Pa , November 16 aged 27 years ——William R Straw, M D Vinita, Ind Terr drowned November 21 ——A E Sullard M D Franklin N Y , November 19, aged 79 years ——Herman Voeller M D Sacramento, Cal , November 14, aged 65 years ——J P Webster, M D , Emporia, Kan , November 12 aged 41 years — A E Willard, M D , Friendship, N Y , November 20 aged 67 years

PUBLIC HEALTH

Etiology of Dysentery —A careful study of an epidemic of dysentery affecting 1121 persons in a town of 21 300 inhabitants, has resulted in the conclusions that the meteoric influences, the drinking water, contagion and food, can only be considered as predisposing or secondary causes Also that the distinct groupings in the quarters where the ground water is the closest to the surface, indicate the predominant role to be attributed to the water and the subsoil in the etiology of the affection There the disease had birth, and thence it was propagated The writer concludes, therefore, that besides the hydric origin of dysentery and of typhoid fever we must also ascribe it in certain cases to telluric action —*Bulletin de l [illegible] de Méd* , October 31

Prevention of Insanity Among Adolescents —A superintendent of a large hospital for the insane, near New York City, states in his annual report that "societies for the prevention of cruelty to children would do well to branch out into the work of prevention of insanity in childhood by insisting on more outdoor physical exercise, and less intellectual over work until the body has been developed to a sturdy, healthy frame ch [illegible] the emotions and grading study according to the age and physical condition of the child Physical deterioration if not actual pathologic conditions exist in seven tenths of our cases and act as exciting causes for mental disturbance He has observed, what is plainly evident, that a larger proportion than formerly of the patients admitted to insane hospitals have the insanity supervening upon a very imperfect constitution [illegible] has been either inherited or more frequently, acquired [illegible] an unwise early management leading to physical de[illegible] —*Charities Review*, November

Laboratory Contagion —The [illegible] comments on the dangers of infection from experimental laboratories regretting that they are not invariably [illegible] with much care as a contagious disease ward [illegible] know he continues of a lab[illegible] of epidemic diseases, which is located on the ground floor of a government building The corridor leading to it is the single corridor for the use of all the employes and their families, who live in the upper stories The space containing the cages of the animals involved in the experiments, is only separated from the common yard where the children play by a lattice work The least negligence may lead to the most serious consequences" Landouzy observes "The most insignificant case of animal plague, escaping from a defectively guarded laboratory, threatens to become, more or less readily and rapidly, the occasion of an epidemic that may break out so far from its starting point as to be practically untraceable"—*Presse Méd*, November 5

Unsanitary Management of Cemeteries—It seems that those who die in Cuba are destined to secure the peace and quiet of sepulture only so long as they have paid for the niche in which they are destined to be deposited "Rest in peace" depends upon the affection and willingness of the dead person's friends to pay another's rent in advance When the year expires, unless the yearly rental is forthcoming, the coffin is unceremoniously taken out and dumped on a convenient field without the sacred *compo* The walls of these niches become masses of germ laden masonry, alternately warmed by the tropic sun shine and kept moist by tropic dews In other words, they are most favorable culture beds, and containing, as they do, the foul germs of yellow fever, become, when disturbed, sources of wide spread infection The disinterring of the dead is not allowed in Jamaica Four years ago in one of the West India Islands belonging to Great Britian, part of an old cemetery was dug up which contained the graves of many yellow fever victims Yellow fever had been absent from the island for years, but immediately after this it appeared and made many victims —*Red Cross Notes*

Transmission of Contagious Diseases by Insects—P R Joly (*Thèse de Bordeaux*), in a monograph on this subject, quotes instances of malignant pustule, Egyptian ophthalmia and Delhi boil conveyed by flies He has also found that the legs of flies may be covered by staphylococci and many other forms of bacteria Tubercle is particularly liable to be disseminated by flies They come in contact with sputa and other media, whereby the tubercle bacilli discharged from the body of the patient becomes ingested, and then alight on food and deposit the tubercle bacilli, and thus easily contaminate milk, meat and other substances The author quotes Yersin as having noticed that the bodies of dead flies collected in his laboratory often contained numbers of the plague bacillus The influence of various insects, more particularly the mosquitoes, in carrying the filaria sanguinis is well known The mosquito has also been suspected as the agent in the conveyance of malaria —*Medical Review of Reviews*, October

Tuberculosis and Food—At the recent meeting of the French Association for the Advancement of Science the section of hygiene, at the suggestion of Professor Nicholas, passed a resolution pointing out that the convection of tuberculosis by inhalation is only one of the modes of infection, and that a larger part of the diffusion of the disease is played by contagion through the alimentary canal, as proved experimentally and clinically, urging the necessity of taking adequate measures to insure the sterilization and harmlessness of articles of food In this resolution the opinion was expressed that it is desirable in addition to take measures to suppress, or at least diminish the causes of weakning of the constitution, which make it fall an easy prey to the disease—overstrain, confined air, overcrowding and unhealthiness of dwellings In every dwelling a sufficient cubic space should be allowed in proportion to the number of the inmates, and all apartments must be freely ventilated and exposed to the sunlight, it is also necessary that low built houses should be furnished with large courts to insure perfect aeration In this respect the English cottage system represents the ideal which should be aimed at The section further urged that the widest possible publicity should be given to the modern doctrines as to the contagious nature of tuberculosis and its prophylaxis, this should be done by means of public lectures, and also by the moral influence which medical men can exercise in their own sphere The curability of the disease should also be insisted upon —*Nature*

Chronic Enterocolitis—It is important, says Dr McKee in the *Philadelphia Polyclinic*, to recognize the fact that most cases of this disease in infancy and childhood originate in chronic milk infection Not infrequently another infection may run coincidently with the infection, and possibly adds its depressing influence In some cases, the malarial organism has been demonstrated When the etiology is clear, the treatment becomes quite plain 1 Withdraw milk from the diet, and do not return to it until the case is well on the road to convalescence, then resume milk cautiously 2 The affection must be treated locally, and best by enteroclysis Silver nitrate (1 to 2000 or 4000) is used twice or thrice daily until the stools begin to lose their vile odor (salt solution is used to neutralize each injection of silver) In the last convalescent stage, tannic acid injections, as recommended by Dr E Holt, are invaluable Dr Wiley of the Children's Clinic has had excellent results with the latter injections, and Dr McKee can heartily indorse the treatment 3 Intestinal antiseptics are of signal use, as they are in all cases of milk infection, salol and benzo naphthol have given best results in the Children's Clinic 4 Astringents by the mouth are best withheld, for the kidneys are likely to suffer in any case 5 Ingenuity may be well nigh exhausted in feeding the youngster, for we have a chronic process with which to deal and nutrition must be maintained 6 Hygienic details will demand attention for several months, and tonics must be employed over a corresponding period of time

Morbific Influences of Burial Grounds—The dwelling places of the dead have, from time immemorial, been the source of dread to civic aggregations, but chiefly within our own memory have they been the occasion of preventive legislation, on the score of their being prejudicial to public health Until the discovery of pathogenic bacteria, this was not attributed to exhalations from the decomposing bodies of those interred, and to the pollution of the ground water, which subsequently found its way into wells from which it was drawn for potable purposes Since the discovery and identification of disease producing micro organisms, the tendency of sanitarians has been to regard these as the infecting element While there have been numerous instances in which cemeteries have apparently been responsible for the spread of disease, still there have always been those who have claimed that the proof has been insufficient, and that other causes have been instrumental in producing the results attributed to the cemeteries The Imperial Board of Health of Germany has instituted an investigation in this important matter, the result of which is exceedingly reassuring to those who are compelled to live in the neighborhood of places of interment In the experiments conducted under the Board's direction, dead hogs and dogs, in which had been placed tuberculous material, anthrax and typhoid germs, were buried in boxes in the ground and at various intervals of time thereafter both the ground water and the soil were examined to determine the presence or absence of living germs Ninety six days was the longest time that the typhoid bacillus was found alive, while the cholera spirillum lived but twenty eight, the tubercle bacillus less than 125, and the bacillus of tetanus less than 361 days Anthrax was the most persistent, being found capable of communicating infection after one year It must be borne in mind that these results were obtained by examination of the material inside the boxes, or in immediate proximity thereto With the exception of the anthrax there were no germs found away from the places in which the bodies were buried —*Brooklyn Medical Journal*, November

NEW INSTRUMENTS

A PRACTICAL OZONE INHALER

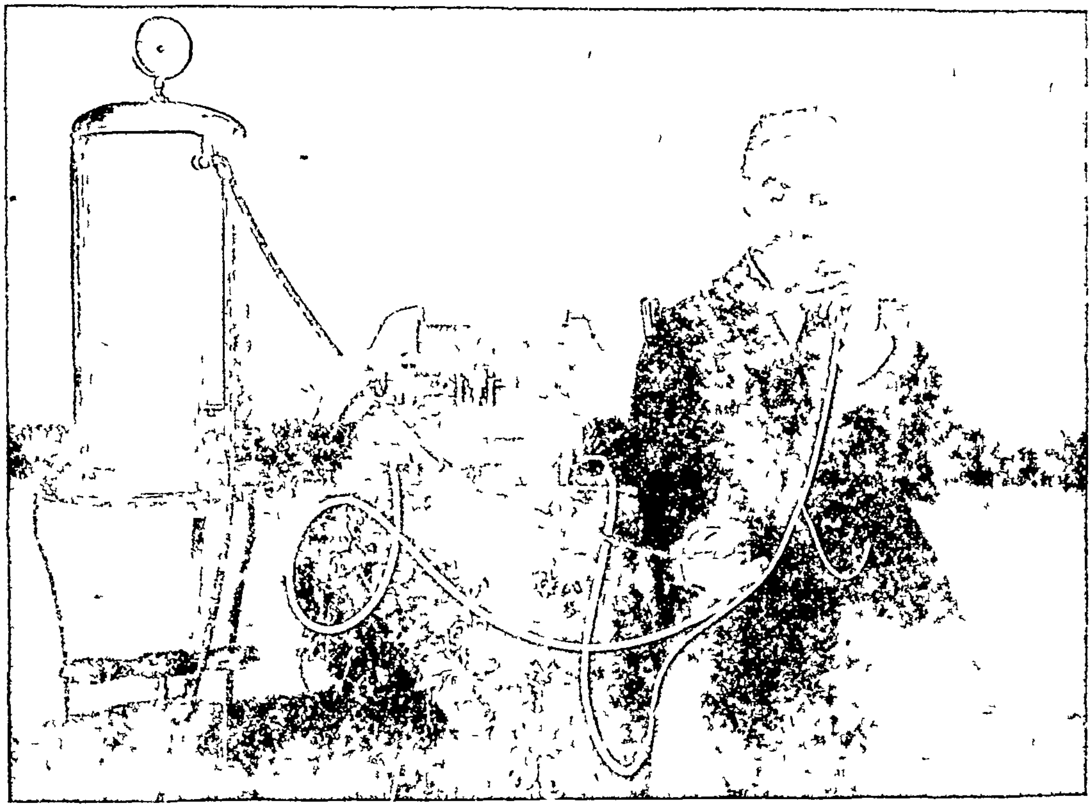
BY W SCHEPPEGRELL, A M, M D

NEW ORLEANS LA

In the October issue of the JOURNAL there is described "A Scientific Ozone Inhaler," by Dr Cyrus Edson of New York City Ozone is a useful remedial agent, which has been used to advantage in many pathologic conditions, but the apparatus described is not a conservative method of generating this gas, as but a small portion of electric energy is utilized for this purpose It compares with the *scientific* method of generating ozone very much as the heating capacity of a single steam pipe does with that of a modern steam radiator

The most economical and practical method of generating ozone is by means of the ozonizer first described by Siemens, and which I have used in the treatment of diseases of the nose, throat and ear for some years, and described in the *Journal of Laryngology*, London, July, 1897

This apparatus consists of a kind of Leyden jar, which is prepared by coating the interior of a glass tube with tin foil and passing over this a second wider tube, also coated with tin foil on its outer surface Between the two tubes a current of air or oxygen is passed which becomes electrified by induction, the inner and outer coatings of tin foil resectively being connected with the terminals of a strong induction coil or static machine By this mean it is possible to convert 10 or 15 per cent of oxygen passed through the tube into ozone, which is more than twenty times the efficacy of the ordinary disruptive discharge, which is the method used in Dr Edson's apparatus



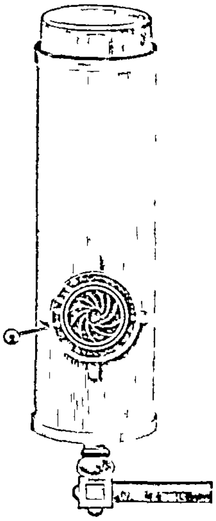
In the description of Dr Edson's apparatus, it is specified that a static machine should be used to generate the electricity An induction coil with a capacity of a six inch spark is equally effective and can be used without correcting the hygrometric conditions of the atmosphere, as is usually necessary with the static machine The method by means of which the ozone is applied in diseases of the maxillary sinuses is shown in the accompanying illustration

A NEW LIGHT-SCREEN

BY JAMES THORINGTON, M D

PHILADELPHIA PA

This is made by attaching an iris diaphragm to an asbestos chimney The amount of light passing through the opening in the diaphragm is controlled by an ivory tipped lever at the left hand side An index at the periphery records the diameter of the opening in millimeters, from one to thirty



When using the Maddox rod for muscle testing, the light streak can be made thread like or very broad by regulating the size of the opening in the diaphragm

While this screen may be of use in otology laryngology, and in general ophthalmology, yet it is primarily for retinoscopy simplicity and great convenience in controlling the amount of light being its points of merit

To Messrs Wall & Ochs I am indebted for their careful workmanship and skill in making a diaphragm the leaves of which are not affected by the heat

12[illegible] South Eighteenth Street

SOCIETY NEWS

Southern Illinois Medical Association —This association will hold its next meeting at Carbondale, Ill , the second Tuesday in May, 1899

The American Medico Psychological Association, to hold its next annual session in New York, May 23 to 26, 1899, has for officers Henry M Hurd, Baltimore, Md , president, Henry A Gilman, Mt Pleasant, Iowa, vice president, C Bell Burr, Flint, Mich , secretary and treasurer

Rome (N Y) Medical Society—At the first regular meeting, held October 11 the following officers were elected John F Fitzgerald, president, H D White, vice president, Thos P Scully, secretary, Jas H Whaley, treasurer The society meets the second and last Tuesday of each month

American Academy of Railway Surgeons —This society, which is to meet in October, 1899, at Omaha, Neb , elected officers as follows William W Grant, Denver, Col , president, John P Pritchard, Manitowoc, Wis , and John P Lord, Omaha, Neb , vice presidents, Thomas P Lacey, Council Bluffs, Iowa, secretary, C P Kibler, Corry, Pa , treasurer, Frederic J Hodges, Ashland, Wis , editor

Des Moines (Iowa) Pathological Society—This society held its first annual meeting November 8, and elected the following officers for the ensuing year E D Dorr, president, G E Currie, vice president, M F Patterson, secretary, D W Smouse, treasurer M N Voldeng was offered the presidency for another year, but refused to accept, believing a change of presidents should be made each year The society was organized a year ago, and has held thirty profitable meetings, with good prospects for the future

San Francisco Society of Eye, Ear, Nose and Throat Surgeons —The regular meeting for November was held the 17th, at the office or Dr Geo H Powers Dr Powers presented a case of convergent squint in which the fixation point of the left eye was very excentric, and in which the vision of that eye had gone down to 20/200 He was very loath to operate, deeming the chance of obtaining a betterment of the deformity very small The patient insisting, however, he did tenotomy on the inner and on the superior tendons Strange to say, there resulted almost immediate improvement, not only as to the squint, but the fixation point became much more central, though not yet quite at the exact center, and the vision improved to 20/100, and is yet improving From a cosmetic standpoint alone, the operation seemed to have been very satisfactory Dr Barkan presented a case of arrested development of the left ear in which only a small portion of the external ear was present, and in which the presence or absence of the inner ear, or of the bony meatus, could not be ascertained The case had first called at the Cooper College Clinic, where the examination record stated that whisper could be heard in the left ear at a distance of eight inches, and a loud whisper at a distance of six feet When examined by Dr Barkan at the meeting of the society, it could not be definitely decided that the whisper could be heard at all on that side, and the result from examination with various tuning forks was also rather negative, though there was some appearance of hearing a high pitched tuning fork on the mastoid of the affected side No operative measure had been thought of or was intended, the case was presented simply for its rarity Dr Barkan also presented a case of high myopia which he had recently operated upon with gratifying results He stated that it was the ninth case of the sort on which he had operated, and was the most unpromising of them all When seen, the patient, a woman of some 45 years, had vision of fingers at two feet, in the right eye, and six feet in the left eye The apparent refractive error was —20 in the right and —18 in the left, with —19 right, vision was fingers at six feet, and with—20 in the left, vision was fingers at nine feet There were numerous floating opacities and retinal changes in both eyes, some atrophic and pigmented spots. The woman could read Snellen 5, at 4 cm from the eyes On account of the retinal changes and the extremely bad condition of vision, operation was not advised, but the patient was unremitting in urging that the operation be attempted, stating that she was going blind quite rapidly and could be no worse without any eyes than she was with them in the condition in which they then were Discission was made, and nine days later extraction of the lens All the lens matter was not at the time extracted, but it subsequently cleared up nicely by absorption, leaving a good clear pupil, with but one small iritic adhesion There was some trouble with the eye following the operation, but the inflammatory condition gradually subsided The vision, after operation, was fingers at from ten to twelve feet, with a – 2 spheric lens, vision was 10/200, she could read Snellen 1 with a spheric lens of +9, or a cylinder of +2, axis 180° The Doctor accentuated the fact that we should not consider all the cases of high myopia in which there are retinal changes, apparently grave, as hopeless and beyond the pale of operation He had performed the operation nine times, and all were gratifying results Dr Powers presented two cases of sympathetic ophthalmia in old men, after a lapse of from thirty to fifty years, and in both of which the lost eye had not received a foreign body, but had been destroyed by a simple traumatism In both cases the sympathetic trouble came on very slowly and was not at first recognized, for the reason that there was no pain or involvement of the destroyed eye The true condition was eventually suspected and the atrophied eye removed, when the ophthalmia subsided at once In both the eyes which he had removed he found a bony plate, but no evidence whatever of any inflammatory trouble

MISCELLANY

Differentiation of Bacilli—Kashida, working under the direction of Professor Ogata in the Hygienic Institute of Tokio University, has confirmed the observation of Petruschky and Wurtz, that the bacillus coli, when grown in whey, gives rise to an acid reaction by the fermentation of lactose, whereas the bacillus typhosus does not He finds that with the bacillus coli the acid reaction is only temporary, being succeeded by an alkaline The latter is so strong that the colonies in plate cultures on litmus milk sugar agar, previously reddened by the addition of rosolic acid, acquired an intensely blue color No such production of ammonia could be obtained with the bacillus typhosus He recommends as a culture medium a 1 5 per cent bouillon agar, to which are to be added 2 per cent of milk sugar, of urea, and 3 per cent tincture of litmus —*Centralb f Bakt*

Hardly an Accepted Fact—Mr Henry Guy Carleton, at the dinner of the New York State Medical Association at the Manhattan Hotel, New York city, October 19, asserted that stammering was due to the presence of the comma bacillus In his own case he averred that the malady itself was not congenital, but appeared when he began to talk According to his microscopic slides he said the microbe was abundantly in evidence after every syllable He freely gave his discovery to the profession without any design of profit from patent or trade mark

Appendicular Liver—Professor Dieulafoy asserts that any appendicitis, even the most benign, may become the cause of a hepatic infection manifested by the rapid formation of multiple abscesses, by the dozens and hundreds, scattered throughout the liver, transforming it into a sort of purulent sponge, to which he gives the name of appendicular liver The disproportion is most striking between the tiny closed cavity of the appendix where the toxi infection is elaborated, and the great organ affected by it, in which the microbes, endowed with incredible virulence, may determine such extensive lesions in the course of a few weeks or even days The hepatic complications of appendicitis appear abruptly, sometimes in the midst of convalescence, commencing with a terrible attack of fever, followed by others, accompanied by pain in the organ and its rapid enlargement, icterus, and frequently vomiting and diarrhea Appendicular hepatic infection is always fatal The only treatment is prophylactic, which consists in operating during the first days, without allowing this complication on the part of the liver time to develop —*Semaine Méd*, November 9

Chronic Suppurations of the Tonsils—The surface of the tonsils may appear perfectly normal, and yet there may be unsuspected abscesses below A case was recently described at the Berlin Society of Internal Medicine, in which, after repeated inflammations of the tonsils, dyspnea and edema of the glottis suddenly appeared, requiring tracheotomy At the necropsy a purulent infiltration of the latero and retropharyngeal tissue was found, extending to the mediastinum, with pus also in the pleural sacs The tonsils were the seat of several abscesses The infection may have extended locally from them, but there was probably also direct absorption of pathogenic germs from the repeated inflammations The conclusions were drawn that every angina must be subjected to rigorous treatment and perfect antisepsis of the mouth and throat should be maintained —*Deutsche Med Woch*

Chorea Minor from Foreign Body in the Ear—*Memorabilien* (October 21) relates a case of chorea minor, in a girl of 13 years, that has lasted two years, when a physician found a piece of lead from a screw pencil in her ear, resting against the tympanum The foreign body had never caused any disturbances in the ear, but its removal was followed by complete recovery from the chorea

Contemporaneous Uterine and Extra Uterine Pregnancy—Kiriac reports a case terminating in abortion and the extraction of a fetus from the posterior cul de sac On account of temperature he removed the placenta and uterus later by laparotomy The patient recovered —*French Cong of Gyn and Obstet*

Strychnin like Alkaloid in a Corpse—During the examination of a partially decomposed body, Mecke met with an alkaloid which chemically might easily be mistaken for strychnin, but which physiologically did not injure frogs, had scarcely a bitter taste, and did not produce the least effect on animals when injected subcutaneously With picric acid it gave a yellow crystalline precipitate, becoming violet on treatment with sulphuric acid and bichromate Bichromate alone produced a yellow crystalline precipitate, changing to blue with sulphuric acid Bichromate and acid together yielded a blue, afterward a reddish, color Ferrocyanid gave a yellow precipitate, turned violet by acid On the other hand, chlorin water gave (as with strychnin) a milky liquid, but when after evaporation the residue was treated with ammonia, it became a dirty green It dissolved in sulphuric acid to a yellowish liquid, afterward changing to cherry and rose red Frohde's reagents dissolved it, giving a dull violet color, which finally became olive, and then green The substance is not the same as that discovered under similar conditions by Amthor in 1887 —*Phar Zeit*

Anesthetics in Scandinavian Countries—The report presented at the Northern Surgical Congress held at Helsingfors in August, embraced 25,305 anesthesias with chloroform, resulting in 15 deaths, asphyxia in 303 cases, and vomiting in 1789 With ether, 2926, no deaths asphyxia in 25, vomiting in 309 With chloroform and ether in 3616 anesthesias there were no deaths, but asphyxia in 82, and vomiting in 464 With 794 with ethyl bromid, there were no deaths asphyxia in 3 and vomiting in 39 The secondary effects noted were with chloroform 18 cases of death, 54 of heart failure, 46 of pulmonary troubles, 153 of albuminuria, 49 of somnolency, 20 of icterus, and 4338 of vomiting With ether 3 deaths 4 cases of heart failure, 28, pulmonary troubles, 46 albuminuria, no icterus, 585, vomiting With chloroform ether, 8 deaths, 13 cases of heart failure, 13, pulmonary troubles, 17, albuminuria, 10, somnolency 1, icterus 731, vomiting No secondary effects were observed with ethyl bromid except vomiting in 7 cases The total number of all kinds of anesthesia reported was for the last three years, 32 641 The mortality was therefore with chloroform, one death in 1687 anesthesias and one death in 1406 from the after effects No deaths from the other narcotics directly, but indirectly one in 975 with ether one in 452 with chloroform ether, and none directly or indirectly from the 794 anesthesias with ethel bromid The anesthesias are classified and discussed with much detail in the volume of the *Nordisk Med Ark* devoted to the Congress

The World's Food Supply—At the opening of the British Association for the Advancement of Science, President Crookes, in his inaugural address, broached the theory that beyond 1931 the wheat supply would not keep pace with the needs of the population He said that nitrate of soda was not inexhaustible, but that nitrogen in the atmosphere was unlimited, and suggested the burning of nitrogen in the air by a powerful electric current Niagara Falls, according to his view, could thus produce fixed nitrogen at a cost of £5 ($25) per ton, thereby making a yield of wheat equal to thirty bushels an acre As a saving clause he admitted that the exuberant tropic food stuffs might supply the threatened deficiency of wheat for the benefit of future generations

Eaters of Human Flesh—According to a French writer, whose statements appear in tha *Medical Presse*, 20 per cent of all cannibals eat the dead for the purpose of glorifying them 19 per cent eat great warriors in order that they may inherit their courage, and eat dead children with a view of renewing their youth, 10 per cent their near relatives from religious motives, either in connection with initiatory rites or to glorify deities, and about 5 per cent feast for hatred, expecting in this way to avenge themselves upon their enemies Those who devour human flesh because of famine are reckoned as 18 per cent There remains only 21 per cent who eat such flesh because they prefer it —*N Y Tribune*

Porcelain Enamel Casts for Filling Teeth—A new method of filling teeth has been suggested by the author of a communication received by the Paris Academie de Med in competition for a prize He has used it for two years and in 203 decayed teeth, with most satisfactory results in every case He first prepares the tooth for the filling in the usual aseptic manner, and then takes an impression of the cavity with a thin sheet of platinum which forms a hollow mold The enamel paste is poured into this mold and a casting made in one piece, identic with the cavity in the tooth The cavity is then filled with cement, the enamel casting is inserted and carefully fitted into place The normal color and transparency of the tooth is retained, an important esthetic improvement over gold fillings, the enamel never wears out, the cement is protected on all sides from the air and saliva, does not undergo any alteration and the amount remaining in the crevices is so minute that there is no irritation of the nerves of the tooth, which is one of the drawbacks to cement fillings He uses porcelain enamel with a melting point of 1200 degrees C, and makes the small casting on the spot and at the moment needed, with a small English steel furnace lined with fire brick, which attains a temperature of 1600 to 1800 degrees He is not content with the application of this method to dentistry alone but suggests its application to surgical operations in which there are bone defects to be remedied He thinks that a porcelain enamel casting made on the spot, aseptic, never corroding, never wearing out, would answer the purpose perfectly in cases of necrosis, osteomyelitis, etc, although he has no practical experience with it —*Bulletin* October 31

Delirium from Sodium Salicylate—Two cases of acute delirium lasting about forty eight hours, with no fever, after the ingestion of twelve grams of the salicylate in a day and a half have been recently reported —*Presse Méd*, November 5

Trained Workers for the Feeble minded—The school for the feeble minded at Faribault, Minn , has recently celebrated the first graduating exercises of its training school for attendants and nurses This training school is a new departure in work for the feeble minded, and its results give satisfaction to the institution and State officials The course extends over two years, and the pupil attendants take about forty lectures a year The subjects covered are elementary physiology, hygiene, practical sanitation, and the elements of chemistry, but the chief element in the training is not the knowledge obtained from books The most important factor is the attendant's relation toward the children—or the purpose of the school is to develop the motherly relation toward the children The spirit of tenderness and devotion of these foster mothers is magnified, and they must become proficient in correcting the diet, habits, exercise and cleanliness of their wards —*Charities' Review*, November

Hospitals

The new hospital of the University of Colorado, at Boulder, Colo , was dedicated November 19 It has been erected at a cost of $15,000, the building, a handsome three story brick structure, occupping a site adjacent to the campus and near the medical laboratories, on the high bluff overlooking the river and city of Boulder ——Early in November the McDonald Building of the Presbyterian Hospital, Cincinnati, was dedicated The building was erected at a cost of $60,000, the entire expense being met by Mr and Mrs McDonald, whose contributions to the Hospital and the Laura Memorial College (Medical School for Women) amount to $130,000

A Proposed Sanitarium—The Knights of Pythias have on hand a fund of $12,000 as a nucleus of the proposed fund of $500,000 for a sanitarium at Hot Springs, Ark This may require five years for realization The members of the organization in the United States are to be assessed one dollar each

Re establishment of Regimental Hospitals—The War Department has recently authorized the establishment of regimental hospitals in the newly formed camps in Alabama, Georgia and South Carolina According to a formal order the purpose of the regimental hospital in field service is to furnish protection and care to the sick of the command while on a march or in the field, or to those temporarily sick while in camp of instruction It is an emergency hospital in the one case and a detention hospital in the other, but is not intended for the treatment of the very ill, who in the event of a move would prove to be an incumbrance to the regiment When cases are found to be serious in nature they should be promptly transferred to brigade or division hospital, except where regiments are isolated, in which event the bed capacity may be increased as necessary, all of the sick being cared for and transfers made to general hospitals when ordered by proper authority Four hospital tents are allowed to each regiment, two as wards, one as dispensary and storeroom, and one as mess room The personnel is to consist of three hospital stewards, one acting steward and six privates of the hospital corps as nurses and orderlies, with one private for each ambulance and wagon Two four horse wagons are allowed to each hospital On November 15 a circular from the Surgeon General's Office announced the outfitting allowance of instruments, disinfectants, furniture, bedding, clothing and miscellaneous articles for these small hospitals When a regiment is so located that its sick can not be sent to a brigade, division or general hospital the regimental hospital will be expanded to meet the requirements of the case

X Ray Apparatus for Military Posts—According to the *Press and Circular*, November 9, the British War Office, recognizing the advantages of the X ray in military surgery, has issued a large number of outfits to the home and foreign stations under its charge

Montauk Not Criticised—A clipping before us with this caption, says "Army men are following with pained interest the details which reach this country of the sickness and suffering at Montauk and the other military camps I am bound to say that I myself neither hear nor read of any criticism unfavorable to our government in this matter Discussing the question with a military officer of high rank, he quietly said that any man of sufficient age could tell such stories of Crimean hospital mismanagement and disease as would hardly be believed in these days The mere memories, ancient as they are, curb any temptation to criticise the misfortunes of others Yet there is no need to go so far back, for in the late Afridi campaign many of the arrangements for the sick and wounded were as primitive and hopelessly inadequate as if the clock had been put back forty years On the other hand, the surgical department of the Soudan expedition is almost perfection, as well it might be, when Kitchener has been seeing to it all for many thoughtful months "

Naval Medical Incident—One of the gunners of Admiral Schley's fleet is said to have lost his reason as a result of the naval battle of July 3, with Cervera's squadron He is now in St Elizabeth's Insane Asylum, Washington, D C , undergoing treatment The patient's trouble began with concussion of the brain, caused by the detonation of the heavy guns fired during the fight This is regarded as an unusual case The report set forth that eight of the ten casualties upon the American ships in the battle of Santiago were ruptures of the ear drums, caused by the terrific cannonading One of the cases was that of Lieutenant Harrison of the Oregon, who stuck his head out of a turret just as a thirteen inch rifle was fired The noise and shock of the explosion lacerated the drum of both ears, and for a time he was totally deaf Under the careful treatment of the naval surgeons he is gradually recovering his hearing and will in all probability be as well as ever in a few more months All the other men who were similarly affected have been cured and have returned to their ships for duty During the fight at Manila there is no record of any of Admiral Dewey's men receiving injuries of this sort The explanation of this is simple The gunners on battleships are accustomed to plug their ears with cotton to protect them before firing begins, but at Santiago there was no chance for precautions of this kind The men were on deck for inspection at the time the enemy was discovered issuing from the harbor, and they simply rushed to their guns and began blazing away without thought of cotton or anything else At Manila the men were all prepared for the fight, everv precaution having been taken to prevent injury to ear drums, etc

Army Medical Conditions on the Pacific Coast—Reports from the Division Hospital of the Eighth Army Corps, the command on the Pacific coast from which the strength of the Philippine expedition is kept up, are satisfactory as showing a steady improvement in the medical conditions The hospital consists of two new brick buildings with hospital and conical wall tents, the whole having a capacity of 320 beds The tent accommodations are utilized for contagious cases which can not be isolated properly in the permanent buildings, and for the stronger convalescents who are not proper subjects for furlough or discharge In August, 177 cases of measles were treated—a considerable reduction from July—due in part to prompt isolation and thorough disinfection, and in part to the exhaustion of the susceptibility of the commands In September, one of the wards for this disease was discontinued Formaldehyde was used for the disinfection of clothing in these cases Fifty nine cases of pneumonia—13 fatal—were reported in August, and 31, with 3 deaths, in September, quite a number of these being sequent to measles Sixty four cases of mumps in August and 70 in September were complicated with orchitis in an unusual proportion Six cases of malignant scarlet fever were admitted in August, in two of which death resulted from complications Vigorous sanitary precautions were taken in these cases All clothing was burned in preference to trusting to disinfection No case occurred in September During this month there were, however, 4 cases —2 fatal—of diphtheria Eight cases—3 fatal—of cerebrospinal meningitis were treated in August, and 9 cases—2 fatal—in September In August there were 97 cases of typhoid fever, with 6 deaths, and in September 162 cases, with 16 deaths Hemorrhage from the intestines was the determining cause of death in the fatal cases Many of the cases were exceedingly mild Great care was exercised to have typhoid discharges properly and immediately disinfected and promptly disposed of This division hospital is now competent to take care of all the sick of the command, those formerly treated in the city hospitals having been furloughed or withdrawn Thirty trained nurses are now on duty at the hospital, which is under the charge of chief surgeon W S H Matthews, U S V

Colleges

Harvard is to receive $10,000 from the estate of the late Edward Austin of Boston, for the laboratory of the medical school ——On November 25, the Indiana Medical School, a department of the University of Indianapolis, was destroyed by fire, caused by a defective furnace The loss will amount to $40,000, insurance $35,000

Societies

The following recent meetings are noted

Arkansas —Little Rock Medical Society, November 12

California —California Northern District Medical Society, Sacramento, November 15

Illinois —Champaign County Medical Society, Champaign, November 17, Chicago Medical Society, November 23, Southern Illinois Medical Association, Cairo, November 18

Indiana —Tippecanoe County Medical Society, Lafayette, November 21

Iowa —Des Moines County Medical Society, Burlington, November 16

Maine —Maine Academy of Medicine, Portland, November 14

Maryland —Baltimore County Medical Association, Baltimore, November 23, Medical and Chirurgical Faculty of Maryland, Frederick, November 16 and 17, University of Maryland Medical Society, Baltimore November 17

New York —Albany County Medical Society, Albany, November 16, N Y State Association of Railway Surgeons, Manhattan, November 17, Oswego County Medical Association, Oswego, November 16

Ohio —Columbus Academy of Medicine, November 21, Union Medical Association of Northwestern Ohio, Akron, November 15

Tennessee —Middle Tenn Medical Association, Nashville, November 17

Utah —Salt Lake Medical Society, Salt Lake City, November 14

Request for Information —The catalogue committee of the Alumni Society of the Medical Department of the University of Pennsylvania desires a short biography of every medical alumnus, and this appeal is made for aid of graduates of the University in such compilation The following is the form of biography desired 1, name in full, 2, father's name and mother's maiden name, 3, date and place of birth, 4, State matriculated from, 5, date of matriculation, 6 date of graduation, 7, title of thesis, 8, place of practice and present address, 9, college attended, 10, titles, 11, publications made and positions held, 12, if ever in the United States service, in what capacity and when and how long, 13, if married give maiden name of wife, 14, children's names, if any, 15, if dead, give date and place Several thousand biographies have already been catalogued The Committee especially desires the histories of the graduates between the years 1781 and 1790, names of whom are found in the "Proceedings of the Alumni Society" for 1898 and already widely distributed Data in reference to medical alumni serving in the "French and Indian," the "Revolutionary," the "War of 1812," the "Mexican," the 'Civil War," and the recent Cuban War, it is hoped will soon be ready for collation Assistance in this work is earnestly solicited R G CURTIN M D, Chairman F SAVARY PEARCE, M D, Secretary

San Francisco

COOPER MEDICAL COLLEGE.—The long proposed change in the time of the commencement of the college year of Cooper Medical College has finally become a fact The next regular course will commence on January 3, and close Aug 12 1899 The next following course will commence Oct 1, 1899, and close May 31, 1900 Thereafter the regular course will commence on August 15 and continue for eight months This change has been made in order to conform to the general custom of medical colleges throughout the country, of having the regular course in winter instead of the summer months The change is a very welcome one to both faculty and students

FACULTY CHANGES —At the last regular meeting of the faculty of Cooper Medical College Drs Stanley Stillman and Emmet Rixford were elected professors of surgery, and Dr William Fitch Cheney was elected professor of the principles and practice of medicine Drs Stillman and Rixford have for some time been assistants in the chair of surgery and their promotion was expected Dr Cheney has done remarkably good work in the chair of children's diseases for several years past, and has been rapidly making a name for himself not alone within the State of California

A NEW MEDICAL COLLEGE.—The medical department of the University of California, at the opening exercises of their new home south of Golden Gate Park, San Francisco, October 22, appointed a Committee of Ways and Means to extend their influence Correspondence with various institutions regarding plans and costs is one of the methods The new building is well provided with laboratories, but eminent men in various lines of work are necessary to fill the chairs, and supporting salaries are to be given so that entire devotion to their work may be assured

London

MEMBRANOUS RHINITIS —A most suggestive report upon membranous rhinitis was 'presented before the late Medical and Chirurgical Society by Dr Lambert Lack In spite of the mild form and chronic six or eight weeks' course of the disease, the Klebs Loeffler bacillus was found to be present in every one of the thirty three cases examined Although mild, the disease was highly infectious and the bacilli proved fully virulent to animals, to produce abundance of toxins and to grow luxuriantly upon culture media Hence the problem at once arises, why the toxic symptoms of diphtheria were not produced in at least some of these cases? Dr Lack himself was inclined to attribute the immunity to the presence of other organisms associated with the Klebs Loeffler, while in the discussion that followed, both Dr Allan Macfadyen and Dr Goodall regarded the resistance of the tissues at the point of invasion as the chief factor This would seem the more probable explanation, in view of the high bactericidal power of the nasal mucus, and also of the frequency with which the diphtheria bacillus is found in healthy noses without giving rise to any toxic symptoms whatever Indisputable as is the connection between diphtheria and the Klebs Loeffler bacillus evidence is rapidly accumulating to show that its mere presence in the fauces or nose is far from being the only factor, and that the resisting powers of the individual, or of the different regions or tissues, plays an even greater part Possibly the dangerousness of that old remnant—the tonsil—as a point of entry for infection, may be as great in this disease as we are beginning to regard it in scarlet fever and in tubercle

CLINICAL LECTURES —The unique clinical lectures of Mr Jonathan Hutchinson, held every Wednesday afternoon at his private clinical museum are becoming one of the best known and attended 'medical fixtures" of the London winter session Among the cases presented at the last meeting was a most typic one of Paget's disease a raw red oozing patch slightly elevated at its serpiginous edges of about the size of the palm of the hand, upon the left breast of an old woman of 72 It begins upon the nipple and runs an extremely mild and chronic course, lasting for years and seldom involving the lymphatic glands or even the deeper layers of the skin itself—"a granulating surface which never heals," as the lecturer tersely described it Another case was a striking illustration of the fact that the wages of sin and the results of economy are sometimes hardly distinguishable from each other A man of 40, with an indurated sore upon his upper lip, huge swollen cervical glands, a hoarse voice, a perforated palette, and a superb crop of huge flat topped condylomata between the nates and in both groins, all from buying in a moment of parsimony a second hand pipe The sore upon the lip appeared only ten days after the first use of the pipe and the classic procession followed The condylomata in the groins were so large, flat and bathed in pus as to give an almost typic picture of the tubercles of Yaws, much of which the lecturer believes to be neglected syphilis The case was a good illustration of the virulence of syphilis from an extra genital chancre, as the usually tertiary perichondritis of the larynx had occurred before the primary sore had healed or the buboes disappeared and the whole train of symptoms had developed in four months' time

Craig Colony Prize —The president of the board of managers of Craig Colony offers a prize of $100 for the best contribution to the pathology and treatment of epilepsy, originality being the main condition The prize is open to universal competition, but all manuscrips must be submitted in English All papers will be passed upon by a committee to consist of three members of the New York Neurological Society, and the award will be made at the annual meeting of the board of managers of Craig Colony, Oct 10, 1899 Each essay must be sealed in an envelope containing the name and address of the author, and bearing on the outside the motto or device which is inscribed upon the essay The successful essay becomes the property of the Craig Colony, for publication in its "Annual Medical Repbrt" Manuscripts should be sent to Dr Frederick Peterson, 4 West Fiftieth Street, New York City, on or before Sept 1, 1899 —*The Craig Colony Press*

Gleanings —Ballaban's new cyclochrome for rapid changes of colors is proving a desirable substitute for the inexact perimeter——Lossen has secured exceptionally well shaped nostrils and tip in rhinoplastics, with a rubber frame the same color as the skin made by an artificial tooth maker Israel forms the tip with a piece of the tibia ——Successful resection of the cardia in dogs followed only by ten days of vomiting, probably still easier of performance on man in case of carcinoma of the cardia, diagnosed early by palpation ——Peron reports experiments in which the effusion in spontaneously healing tuberculous pleuritis was found to possess an immunizing power in tuberculous infection in dogs He queries whether withdrawal of the effusion by puncture is not directly injurious to the patient (*Klin Therap Woch*, November 6) ——Case of leukemia reported, evidently due to internal injuries received in a crowd, in which the spleen had been injured ——Case of retinitis in Bright's disease simulating a malignant tumor Nothing was found after extirpation but hyaline degeneration and glaucomatous phenomena with decollement of the retina First instance on record of this lesion in Bright's disease (*Wratsch*, August 8)

THE PUBLIC SERVICE

Movements of Army Medical Officers —To duty in the camps To the Commanding General First Army Corps at Americus Ga Major Frank J Ives, brigade surgeon, as chief surgeon Second Brigade, Second Division relieving Major Frank Bruso from this assignment also Acting Asst Surgeons L Arthur Zoller and Herbert J Harris To the Second Army Corps Major Lewis Balch, brigade surgeon for assignment to the Second Brigade Second Division subsequently ordered to the First Division, First Army Corps as sanitary inspector with the first troops embarking for Cienfuegos, Cuba To the Seventh Army Corps Major James E Pilcher brigade surgeon for assignment To the Sixteenth U S Infantry Acting Asst Surgeon B F Van Meter at Fort Thomas, Ky To the Second U S Artillery for duty with its batteries, at Savannah Ga Capt Geo J Newgarden Lieut Clarence J Manly from Columbus Barracks Ohio and Lieut R P Strong from the Fourth Army Corps at Huntsville Ala all assistant-surgeons U S Army also Acting Asst Surgeon Ricardo Gaston from Fort Crook Neb

To Havana Cuba Lieut Col R M O Reilly, chief surgeon Vols, on completion of his present duty in Washington, D C Major John J Archinard brigade surgeon, from duty at Santiago and Acting Asst Surgeon Joaquin L Duenas

To Santiago, Cuba Major Valery Havard surgeon U S Army returning to station Lieut Ira A Shimer, assistant surgeon U S Army from U S General Hospital, Fort Myer Va and Acting Asst Surgeon Rupert Norton, on the expiration of his present leave Acting Asst Surgeons Samuel P Cottrell and James G McKay

To Manila Philippine Islands Acting Asst Surgeon M A Robert from York, Pa

To Honolulu, Hawaiian Islands Major M W Wood surgeon U S, Army, from Boise Barracks Idaho

To Hospital Ships Lieut P C Fauntleroy assistant surgeon, U S Army, from the Josiah Simpson General Hospital to the *Missouri*, and Capt Alex N Stark, assistant surgeon U S Army, from the *Missouri* to command the *Bay State*

To the Josiah Simpson General Hospital Fort Monroe, Va Acting Asst Surgeons R B Westredge John A Metzgar H A Barnhardt, Ed W Pinkham John S Logg Ralph L Taylor and Roy A Wilson

To the care of soldiers in civil hospitals Major David C Peyton brigade surgeon Vols, to assume supervision of the sick in the following hospitals in Pennsylvania -Chester County Hospital, West Chester St Joseph's Hospital and Lancaster General Hospital Lancaster, Reading Hospital and St Joseph's Hospital Reading, Good Samaritan Hospital and Lebanon Hospital Lebanon Harrisburg Hospital and St Clare Infirmary, Harrisburg York Hospital York, Charity Hospital Norristown Pottstown Hospital, Pottstown Pottsville Hospital, Pottsville and Columbia Hospital, Columbia In Baltimore, Md, Major Lewis W Crampton, surgeon U S Army In Providence, R I, Acting Asst Surgeon H P Abbott

To duty with the Fourth Army Corps, Huntsville, Ala Major Rafael Echeverria brigade surgeon Vols

To military posts Major E C Carter brigade surgeon Vols to Washington D C, as attending surgeon, on completion of his duties at the Sternberg and Leiter General Hospitals Capt Geo J Newgarden assistant-surgeon U S Army, to Fort Adams R I At Fort Sam Houston Texas Capt Chas Lynch assistant surgeon U S A At Fort Logan H Roots Ark Lieut Samuel M Waterhouse assistant surgeon U S A At Fort Sill Okla, Major Marlborough C Wyeth surgeon U S A from duty as medical supply officer at Camp Meade, Pa At Fort Wayne Mich, Capt Merritte W Ireland, assistant surgeon U S A, from duty at Santiago and Montauk Point At Fort Hamilton, N Y Major A H Appel surgeon U S A, his orders to Fort Grant, Ariz, having been rescinded To Sullivan's Island S C, Acting Asst Surgeon F A Holliday, from Washington D C

Leaves of absence granted Capt Francis A Winter, assistant surgeon U S A and the following acting assistant surgeons Rupert Norton L A Southall, Frank Roberts and Randall R Hunter

Sick leaves granted or extended Major W H Wakeman brigade surgeon Vols F D Bain surgeon Second Ohio Infantry Major Hiram B Thompson Surgeon Third Connecticut Infantry Major Murray T Clements surgeon Fifth Massachusetts Infantry Major Chas T Pollard surgeon Fifth U S Vol Infantry Captains Henry C Fisher and Jefferson D Poindexter assistant-surgeons U S Army Captain Ellis Duncan assistant surgeon First Kentucky Infantry, and Acting Asst Surgeons John Horn, Elbert E Persons, Roy A Wilson, H B Emerson and Milton D Norris

Honorably discharged Majors Royce D Fry Francis T Metcalf Frank Bruso Oscar Le Seure and Lewis Balch, brigade surgeons and Capt Herbert W Cardwell assistant surgeon Second Oregon Infantry to accept commission as chief surgeon U S Volunteers

Resigned Capt Chas S Jordan assistant surgeon First North Carolina Infantry and Lieut John M Martin assistant surgeon Fifteenth Pennsylvania Infantry

Contracts annulled Acting Asst Surgeons Benjamin F Wooding and Lewis M Waller, Josiah Simpson General Hospital Roger B Ames Huntsville Ala Jesse Ramsburgh, Plattsburgh Barracks N Y and Acting Asst Surgeon J A Dunwody, of Cripple Creek, Colo

Retired Major Norton Strong, U S Army

CHANGE OF ADDRESS

Becker B A from Dubuque Iowa, to Silver Lake Wis
Barslow J M, from 221 S 6th St to Merriam Block, Council Bluffs, Iowa
Budwig, M from 150 2d Ave to 226 E 114th St New York City
Bernheim A from Paducah Ky to 1910 N 6th St Philadelphia Pa
Burkholder J F from 334 E 55th St to Reliance Bldg Chicago
Durham C O from 302 to 602½ S Ill St Indianapolis Ind
Fanning G J from Harlem Mont to New Orleans, La
Gage M R from Sparta Wis to Valdosta Ga
Gillin, C W from Doon to 4th and Jefferson Sts Waterloo Iowa
Harbeck, J H from Boulder Colo to Cuernavaca Mexico
Herr A W from Battle Creek Mich to 1926 Wabash Ave, Chicago
Klebs E from Stewart Bldg to 4419 Indiana Ave Chicago
Lemoine, R S from 1623 to 3626 Washington Ave St Louis, Mo
Prioleau, W H from Charleston S C, to 242 W 43d St, New York City
Peavy J F, from Atmore Ala to Asheville N C
Raynor W J from Denver to Fort Logan Colo
Rowe S B from 925 Bayard to 3437 Bell Ave St Louis, Mo
Smith J W, from Cumberland Va to Rowlesburg W Va
Schuster, B L from Milwaukee Wis, to Am Circus 2, Berlin Germany
Siegelstein L F, from 299 to 333 Woodland Ave, Cleveland, Ohio
Terry M C from 628 to 718½ Adams St, Chicago
Wright W J from Lansing to Gregory Mich
Williams C C from 1396 Winfield St to 716 Westlake Ave Los Angeles Cal

---

LETTERS RECEIVED

Arnold E F G, New York City, American Therapeutic Co, New York City
Bell, Samuel, Newberry Mich
Carson S L Volpen, Ind, Croftan, A C, Pasadena Cal, Corr, A C, Carlinville, Ill
Dorr H I Boston Mass
Elliott A R New York City
Fernandez, J D, Jacksonville, Fla
Gould Geo M, Philadelphia, Pa Graham, Douglas Boston Mass Gulley & Crawford Adv Agency, Chicago
Hulen V H, New York City, Hare, H A, Philadelphia, Pa Havard V Bridgeport, Conn
Kidd J W Joliet Ill Kirkland, W A, Ft Collins Colo
Lehn & Fink, New York City
Morley Geo A Crookston Minn, Morriss, A W, Mrs, Lebanon Ill, Mendlein F A Buffalo N Y
Norwich Pharmacal Co Norwich, N Y
Peacock Chemical Co New York City, Putnam's Sons, G P, New York City, Phelps A M New York City
Robertson C M Davenport Iowa
Smith W O Toledo Ohio, Smart Chas, Col, Washington D, C, (2) Spachman J P DuBois Pa Schmidt E F, St Paul Minn
Taylor P K, New York City Tindal E F Stone Bluff, Ind Thomas J W Pheonix Ariz Thompson, T A, Cincinnati, Ohio
Van Hook W Chicago
Wright W J Gregory Mich Warner & Co W R, Philadelphia Pa Will O B, Peoria Ill Wooten, Joe S Austin, Texas, Wilder, W H, Chicago

The Journal of the
American Medical Association

VOL XXXI CHICAGO, ILLINOIS, DECEMBER 10, 1898 No 21

ADDRESS

CHAIRMAN'S ADDRESS

Presented to the Section on Physiology and Dietetics, at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo June 7-10 1898

BY RANDELL HUNT, M D
SHREVEPORT, LA

Welcome, gentlemen of the AMERICAN MEDICAL ASSOCIATION! Welcome to this Section, assigned as a place of instruction and enjoyment, for the communication of knowledge and the circulation of thought! And specially welcome to this hall set apart for the science of physiology and dietetics

The chief end of all medicine is to secure to humanity the blessings of health, and this can only be attained by the scientific education of the physician It is accordingly the paramount duty of all medical associations to foster and promote higher education

The chief cause of disease is ignorance, the foundation of health is knowledge, for knowledge is the parent of science and her natural and only safe guardian Impressed with these truths, physicians are advocating thorough education—education involving comprehensive knowledge of the laws of Nature and philosophy—a knowledge indispensable to thorough appreciation of the dignity of the science and art of healing

The Supreme Being, when he made the universe and created matter and all classes of beings, animate or inanimate, gave to every class its conditions and appropriate functions Order, proportion and fitness pervade the whole The world around us and the world within us are ruled by immutable law We see, we feel, we regard with wonder and admiration the rule Our very spirits, that seem so spiritual, so subtle, so free, are subject to it The material world, the heavenly bodies, the earth, and the different elements of the universe have their laws, beasts have their laws, man his laws The celestial as well as the terrestial world knows, and, without swerving, observes and obeys its prescribed course

This truth is illustrated in the grandest and most sublime of the works in nature and in the least and lowliest—in the laws that regulate the planetary motions, the range of planets, suns, and adamantine spheres wheeling unshaken through the void immense, and in those which form a drop of water The vastness and multitude of the celestial bodies, the laws which astronomy in its higher branches discloses and applies, the distances which it spans, the periods which it estimates, impart a sublimity which lifts the soul to the heavens The law of gravitation is the most universal law known to us It prevails apparently through all space, but does not prevail alone, for its function is to balance other forces, of which we only know that these again are needed to balance the force of gravitation

Each force, if left to itself would be destructive of the universe, for the force of gravitation prevents the centrifugal force from flinging the planets into space, while centrifugal force prevents gravitation from dashing them against the sun The orbits, therefore, of the planets, with all that depends upon them, are determined by the adjustment between the law of gravitation and other laws that are less known, so as to produce and maintain the existing solar system This grand example of the principle of adjustment gives no idea of the extent to which the principle is required and is adopted in the works of nature

The revolution of the seasons, seed time and harvest, depend on the law of gravition, in this sense that if the law were disturbed, or if it were inconstant, they would be disturbed and inconstant also But the seasons equally depend on a multitude of other laws—laws of heat, laws of light, laws relating to fluids, to solids, and to gases, and to magnetic attractions and repulsions—each of which laws is invariable in itself, but each of which would produce utter confusion if it were allowed to operate alone, or if it were not balanced against others in the right proportion The seasons depend not only on the facts and laws which astronomy reveals, but on other sets of laws revealed by other sciences, such as chemistry, electricity and geology

Chemistry abounds with illustrations of the law of forces in mutual adjustment, for the forces that determine chemic combinations all work under sharp definite rules Some of the laws which regulate this combination are wonderful and beautiful, of great exactness, having invariable relations to numbers and proportion Each elementary substance has its own combining proportions with other elements, so that, except in these proportions, no chemic union can take place at all And when chemic union does take place, the compounds which result have different proportions employed The same elements combined in one proportion are sometimes a nutritious food or a grateful stimulant, soothing and sustaining the powers of life, while, combining in another proportion, they may be a deadly poison, paralyzing the heart and carrying agony along every nerve and fiber of the animal frame

The whole progress of plants from the seed to the root, and thence from the root to the seed again, the method of animal nutrition, digestion, and all other branches of vital economy, are not left to chance, but are performed in a wondrous manner, and guided by unerring rules laid down by the great Creator Thus it is through the whole of nature laws everywhere—laws in themselves invariable, but so worked and so adjusted as to produce effects of inexhaustible variety, by being pitched against each other and made to hold each other in restraint Not a tree, not a flower, not a blade of grass, not even a drop of water, not one of the countless varieties of form in clouds, but is ruled by law, by forces which are free only within the bounds of natural law

All are but parts of one stupendous whole,
Whose body Nature is, and God the soul,
That changed through all, and yet in all the same,
Great in the earth as in the ethereal frame,
Warms in the sun, refreshes in the breeze,
Glows in the stars, and blossoms in the trees,
Lives through all life, extends through all extent,
Spreads undivided, operates unspent,
To him no high, no low, no great, no small,
He fills, he bounds, connects, and equals all

Advancing knowledge of physical law has been constantly accompanied with advancing power over the physical world, and has enabled us to do a thousand things which a few centuries ago would have been considered supernatural Physiology shows the structure of man, the superiority of the human organization, its various functions, and all that is connected with the animal life of man, over those of the rest of the animate creation And even here in man, the highest type of God's creative genius, natural law is paramount and immutable Disease is a deviation from health, a deviation consisting in the alteration of function, property or structure of some tissue or organ, owing in most part to a disregard or ignorance of natural physiologic, hygienic and dietetic law Disease is thus an abnormal performance of those processes that constitute life, a knowledge of which must necessarily precede the practice of medicine

ORIGINAL ARTICLES

THE MILK-SUPPLY OF CITIES CAN IT BE IMPROVED?

Presented to the Section on State Medicine at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY HENRY O MARCY, A M, M D, LL D
BOSTON, MASS

Sanitation has made rapid strides in the protection of the public from a great variety of dangers, and more and more each year are emphasized the interdependence and correlation of the entire body politic This is especially true in urban life, and many of the relations which were thought to be purely personal and individualistic are now accepted as common, and are to be most satisfactorily dealt with under general supervision and control The development of the water-supply and sewerage of cities is an illustration of common needs, more and more demanding a union of public interests, supervised by men of the highest talent, specially trained for this service

Modern science has pointed out many dangers to which the individual is exposed, and it is with special satisfaction that we refer to the labors of this generation in having defined the causation and limitation of a large class of the diseases to which the human race is liable

Ever present—from birth to death—is the daily need of supplying the wants of the system with materials from which the vital economy extracts the products necessary to repair the waste and rebuild the organism During the first year of life this is furnished almost exclusively by the maternal milk, or that from animals, and nearly every individual incorporates milk daily into his supply of food

In nursing, this complex animal product is conveyed directly, without contamination, into the stomach, and therefore becomes easy of digestion and assimilation We have learned to know that milk is an excellent culture-medium for certain forms of bacteria, and that, because of these and other contaminations, it rapidly undergoes changes which are deleterious to the animal organism, and may be the means of diffusing disease in a variety of forms In a very brief period after its production it becomes entirely unfit for food

It is generally accepted that by far the larger single cause of mortality during the first year of life is owing to improper feeding—"bottle-fed infants" Dr S W Abbott, Secretary of the State Board of Health of Massachusetts, in a recent paper entitled "The Saving of Children," says "I have carefully examined the list of diseases in which an increased death-rate has occurred in Massachusetts, and have no hesitation in stating that boards of health in our large cities will find a fruitful field of work in the study of the question of infant mortality, its causes and the prevention of its excessive prevalence Another reason for encouragement in this special direction is the fact that many lives saved in infancy are saved for a long and useful life, and are in fact so much added wealth to the community at large"

Dr Schlossman says "The death of every child constitutes a definite loss of national wealth On the other hand, energy expended in saving the lives of the aged from the inroads of disease at the later periods of life only saves this class at a period when they are most likely to be a burden to the community"

Dr Abbott quotes statistics to show that the death-rate of children under one year of age, per one thousand births, in Ireland from 1884–1888, was only 94, which is the lowest figure in foreign countries In England it was 144, in France 165, in Massachusetts varying from 150 to over 200, and in the large cities often exceeding this latter percentage It is generally conceded that this abnormally high percentage of death rate is largely due to improper feeding

How shall this, perhaps the most important of all our food supplies, be economically and safely furnished the public? is the subject to which I invite your attention and in its solution solicit your earnest co-operation Manifestly, the first subdivision of the subject will be the source of the product—the animal furnishing the milk. Since man has almost exclusively selected the cow for this purpose, we will limit our inquiry to this animal The improvement of the breeds of cattle is manifestly important, although the time at my disposal will not permit the discussion of this branch of the subject It must be accepted that the animal furnishing the milk should be maintained in a state of health This necessitates a proper feeding, healthy surroundings, a good water-supply, a certain amount of daily exercise out of doors, and protection from exposure and cold It might be assumed that the interest which the owner of a dairy has in his herd, from an economic standpoint, would be a satisfactory guarantee in the securing of the public protection Unfortunately, however, this is not true, and from a narrowly selfish standpoint the owner of the cow oftentimes considers her only as a machine from which to realize the largest possible product Since this is estimated and sold as quantity rather than quality, the attention is often directed to the supplying of food products, accepted by the owners to be in a certain degree deleterious to the health of the animal, but recognized as stimulating to the milk secretion, as well as not seldom cheapening the keeping expense of the animal. Articles generally known as more especially damaging are the distillery products and certain imperfect forms of ensilage, more or less universally contaminated by various fungoid growths known as moulds, etc.

The owner's self-interest is also oftentimes, if not commonly, brought into collision with the public good in the employment of too little and a low grade of service in the care of the animals. This is at present very generally recognized in careless and dirty methods of milking, especially during the period of housing made necessary by northern winters. The filth incorporated in the milk by the ordinary methods of stable-milking is a source of serious damage to the product, and if observed by the average consumer would be stigmatized as digustingly filthy.

These interests of the milk-producer, resulting from ignorance, carelessness and worse, so plainly conflict with those of the consumer, that the public has a right to demand that all the sources of milk supply production shall be constantly kept under public inspection and control, viz., that a healthy animal furnishes a clean and healthy product for public consumption.

The second subdivision of the subject is: Having a good product furnished by the dairy, how can it most safely and economically be distributed to the consumer? By general consensus of opinion the clean milk should be cooled as rapidly as possible, since bacterial decomposition goes on slowly at low temperatures, and immediately put up in sterile receptacles. Since tin is in common use, boiling water and steam furnish safe and economic methods. When glass is selected, and for many reasons it is much to be preferred, after washing, sterilization is easily effected by dry heat. Once put up for the public use, the product should be exposed as little as possible in reaching the consumer. This is the great objection to the large can.

Some years since, as chairman of a committee having public inspection of the milk supply of the city of Boston, we found the greatest contamination resulted from the dirty methods practiced by small dealers, in recanning in a filthy stable in pints and quarts for family use. This was often labeled as one cow's milk, and especially recommended for the use of children. The cheap corner grocery is another source of milk defilement, which oftentimes is kept in dirty surroundings, even living rooms, and sold in small quantities for the use of neighbors.

Until within a comparatively brief period milk-inspection, although demanded by law, has been a perfunctory and superficial affair. It was deemed of chief importance to prevent dilution and the incorporation of foreign substances. Dilution with pure water may be the least damaging to the consumer, although he does not obtain the full value of his purchase money, while the addition of coloring matter to give the milk a rich, creamy appearance, is not especially injurious.

The real dangers with which the public has to contend lie in the contaminations already referred to. Besides these there is the lack of economy necessitated by the rapid distribution of a product which deteriorates every hour after its production so rapidly that by the third day it becomes a waste product.

We admit that the problem is by no means easy of solution, and that in the aggregate it is of enormous magnitude and yet modern science seems to be extraordinarily lacking in furnishing better means for supplying a universal want. Other food products are cared for much more satisfactorily, so that the consumer has his table supplied economically and safely from the markets of the world. We cease to marvel at the fresh salmon daily distributed, which comes to us in good condition from Alaska. We find poultry of the autumn, fattened upon the western cornfields, in good preservation during the months that follow, even the mutton from New South Wales vieing in the English market in quality with the Southdowns of the previous day's killing, which has for its chief rival, Chicago beef, noted for its excellence in the great centers of both continents. Certain cheese and butter products have wide reputation, and deservedly so, because they are prepared from healthy dairies in the pure air of high Alpine fields. The last few years have seen a revolution in the manufacture of butter and cheese from milk brought to a common center from a large surrounding district. The products are so manifestly superior that they bring higher prices in the open markets. These may be called *concentrates* of milk, and, because of their minimizing in bulk and keeping properties, are easily transported long distances to the great centers of consumption. This should pertain equally to the milk-supply, and in the abstract is a problem of comparatively easy solution.

In this paper I purposely avoid even touching upon the important questions of milk composition and the testings of its value, since in a general way, these are not only well understood by the medical profession, but also by the body politic. Sufficient for our present purpose has been the reference already made to the constant contamination to which milk is subject, from the moment of its production until its consumption. It is a well-known scientific fact that aseptically withdrawn from the healthy udder into an aseptic receptacle, and sealed at once without exposure, milk remains indefinitely in a state of preservation. By the present means employed for its abstraction from the animal, protection from contamination is impossible, although to me it seems evidently feasible that machines for milking could be adopted, which, in very large degree at least, would be preventive of this source of infection. Once having occurred, however, some means must be taken for its disinfection. This may be said to be readily done by boiling, but heat thus applied not alone changes the taste of the product, but also its composition, both the fat and casein being affected by it, and rendered far less nutritious and digestible. Heated to a lower temperature, about 170 degrees F—so called Pasteurization—the cream and caseous products are less changed and the larger portion of the bacteria destroyed. This gives a safer milk and is much more economic in consumption, because it will keep much longer without spoiling.

Milk concentrates, the larger portion of the water having been extracted and condensed by evaporation in vacuo, until a semi solid is the resultant, have long been familiar to all. They have their advantages and are considered under certain conditions well nigh indispensable articles of food. Their use, however, is comparatively exceptional, because of undesirable changes resulting from the application of heat. By the abstraction of the water from milk, its bulk is lesened about 87 per cent If removed without change of the solids, the addition of this amount of water would again give fresh normal milk Removal by processes that would destroy deleterious contamination occurring in its production would render the product as permanent as that of butter and cheese, and as easy of transportation The economic resultant would diminish the cost to the consumer about one third, and give an article of food of far greater value and safety How can it be effected?

I am indebted to my friend, William T Sedgwick, professor of biology in the Institute of Technology, Boston, for much valuable information upon the subject of milk contamination, and the State of Massachusetts may well consider itself fortunate in the services which he has already rendered, in securing a better milk-supply His publications upon the subject are more or less known to the medical profession From a large series of bacteriologic investigations the following deductions are drawn

> Normal country milk produced by clean, healthy animals, drawn by hand with great care into sterilized bottles and planted quickly, yielded as an average of several trials 530 bacteria per cubic centimeter—the cubic centimeter roughly estimated as equal to a cube one third of an inch, or to a small thimbleful When, however, the milkman used the ordinary milk pail of flaring form, seated himself with more or less disturbance of the bedding, and vigorously shook the udder over the pail during the usual process of milking, we found that the numbers were very much higher, namely, an average of 30,500 per cubic centimeter, at the end of milking When such milk is found upon the tables of country families a few hours later, it naturally shows still more bacteria, doubtless because those with which it was seeded have had time to multiply The average of fifteen such samples from the tables of families in Jamaica Plain, Cambridge and Auburndale, was 69,143 per cubic centimeter In these cases, moreover, the conditions of the cows and of the stables were exceptionally good, while the milkmen were much more than ordinarily clean and careful
>
> It follows from these results that there are two principal sources of the bacteria in the milk, viz , contamination during the act of milking, and the natural multiplication of the bacteria thus introduced during the interval between milking and the consumption of the milk The result of these investigations was to show that even under the most favorable conditions cow's milk, as ordinarily drawn becomes, almost necessarily, infected with hosts of putrefactive bacteria at the very outset Under worse conditions, with unclean stables and dirty milkmen, to say nothing of half cleaned pails and cans, it is easy to understand why milk swarms with bacteria , and, if we allow time also, the wonder is, not that it contains so many germs, but rather that it is still potable at all
>
> When we reflect upon the indescribably filthy condition of many cow stables , upon the fact that the cow's udders and flanks are not infrequently covered with flaking excrement , upon the quality of the men employed to do the milking, etc , etc , it becomes a simple matter to understand how this rich animal fluid—sterile at the start, but drawn by unclean hands into half cleaned pails, and meantime sprinkled from above by the dust of the stable, by hairs, dandruff, dirt, and particles of excrement from the skin and udder of the cow, vigorously shaken by the milker or brushed by his hat—becomes infected with organisms That these multiply swiftly and enormously in the warm and rich fluid, well aerated by the act of milking, is also a natural consequence of favorable conditions
>
> Of fifty seven samples taken directly from the milk wagons and planted at once, the average number of bacteria were 2,355,500 per cubic centimeter In sixteen samples taken from groceries, usually older milk than that found in the wagons, the average number of bacteria was 4,577,000 per cubic centimeter Two samples collected from well to do families upon the Back Bay showed an average of 1,488 000 per cubic centimeter Forty five samples of so called ‘ railroad" milk, that is produced at a distance from the city and shipped by rail, under favorable conditions even upon its arrival, contained an average of more than 500,000 bacteria per cubic centimeter

Mr S C Keith, of Boston, a graduate of the institute of technology, who has for two years devoted himself to the special study of milk products and their contamination, recently gave a most interesting lecture before the Boston Society of Arts upon this subject He stated that he had made experimental bacteriologic studies during the last summer upon the milk from ninety-seven dairies, examined soon after its arrival in Boston Twelve per cent contained less than 100,000 bacteria per cubic centimeter, 51 per cent from 100 000 to 1,000,000, 25 per cent from 1,000,000 to 5,000,000, and 12 per cent over 5,000,000

Professor Sedgwick quotes the investigations of Professor Renk of Halle, who found that the public milk supply of that city varied from 6,000,000 to 30,000,000 per cubic centimeter, and he remarks by way of comparison that the sewage of American cities seldom contains, on the average, more than 1,000,000 bacteria per cubic centimeter

Professor Sedgwick has not been willing to treat the subject from simply the standpoint of abstract science, and at the October quarterly meeting of the Massachusetts Boards of Health in 1897, and published in the Journal, will be found the following rules, suggested by a committee of which Dr Sedgwick was chairman, for adoption by Boards of Health of the State for the protection of milk supplies from pollution

ARTICLE I

Section 1 All persons engaged in the production of milk for sale, or in the sale, delivery, or distribution of milk in the city or town of shall annually, on or before May 1, make written application, on forms prescribed by the Board, for a permit or license

Sec 2 No person shall engage in the business of producing milk for sale, or in the sale and distribution of milk, in the city or town of after April 30, 189-, without a permit or license to do so signed by said Board of Health, and under such conditions as said Board of Health may impose, revocable at the pleasure of said Board

Sec 3 The conditions under which every cow is kept, whose milk is brought into any city or town, or kept, delivered, distributed, sold, or offered for sale, in such city or town, shall be made known to the local Board of Health in such detail as the Board may require, and shall be approved thereby , and no milk except that delivered from such cows shall be brought kept, delivered, distributed, sold, or offered for sale

Sec 4 No milk shall be sold, offered for sale, or distributed in any city or town, unless the cows from which it is delivered have within one year been examined by a competent authority, and shown to the satisfaction of the local board of health to be free from disease

Sec 5 All persons having a permit or license to sell, deliver, or distribute milk in any city or town, shall keep a copy of the same constantly posted in a conspicuous place on premises and vehicles from which milk is sold or distributed or in which milk is kept or delivered

ARTICLE II

Section 1 No milk shall be kept for sale or distribution, or handled, tranferred from can, or stored in any stable or similar place, or any room used in whole or part for domestic or sleeping purposes

Sec 2 Milk shall be stored or regularly mixed, cooled, or poured from can to can only in a room not directly connected with a stable or stables, provided with a tight floor and kept constantly neat and clean, the walls of the room being of such a nature as to allow easy and thorough cleaning The room aforesaid shall contain proper appliances for washing and sterilizing all utensils actually employed in the storage, sale, and distribution of milk in said building, and all such apparatus and utensils shall be washed with boiling water or sterilized by steam regularly after being used

Sec 3 No animal, water closet, or privy shall be in the aforesaid room or any room directly connected therewith

Sec 4 All milk directly after it is drawn from the cow shall be at once taken to, and be at once filtered, cooled, and stored in a room such as is described in Article II, Sections 1 and 2

ARTICLE III

Section 1 Milk kept for sale in any store, shop, market, bakery, or other establishment, shall be always kept in a covered cooler, box, or refrigerator, properly drained and cared for, and while therein shall be tightly corked or closed, and only in such location and under such conditions as shall be approved by the local board of health

ARTICLE IV

SECTION 1 All cans, bottles, or vessels of any sort used in the sale, delivery or distribution of milk to the consumer must be cleaned and sterilized by the milk dealer before they are again used for the same purpose

ARTICLE V

SECTION 1 Every person engaged in the production, storage, transportation, sale, delivery, or distribution of milk, shall immediately on the occurrence of any case or cases of infectious disease, such as typhoid, scarlet fever, or diphtheria, either in himself or in his family, or among his employes or within the building or premises where milk is stored, produced, sold, or distributed, take care that the local board of health is notified of such case or cases, and at the same time suspend the sale or distribution of milk until authorized to resume the same by the local board of health

SEC 2 It shall be unlawful for any person suffering from a contagious or infectious disease, such as typhoid, scarlet fever, or diphtheria, to handle, transport, deliver, mix, taste, work over, or distribute milk, or in and about places where milk is stored, sold, or distributed, or to serve as a milker or milkman No vessels which have been handled by persons suffering from such diseases shall be used to hold or convey milk

A long discussion of these rules was entered into by the members of the Massachusetts Boards of Health, which resulted in their adoption, and as a fruitage thereof, I subjoin the following order issued by the Board of Health of the town of Montclair

BOARD OF HEALTH

AN ORDINANCE CONCERNING THE PRODUCTION OF MILK AND REGULATING ITS SALE AND EXPOSURE FOR SALE IN THE TOWN OF MONTCLAIR

Be it ordained by the Board of Health of the Town of Monclair, in the County of Essex, as follows

SECTION 1 Every person, corporation or association of persons who now is or who hereafter shall be engaged in the sale, or exposure for sale of milk within the Town of Montclair, before selling or exposing the same for sale, shall furnish the Board of Health of the Town of Montclair a true and complete statement as to the locality from which the milk so sold or exposed for sale is produced, also a full and complete list of the names and addresses of persons from whom the said milk was purchased, and the names and addresses of all persons to whom they are regularly selling or delivering milk within said town, said lists shall be furnished to the said Board on the first days of January, April, July and October of each calendar year, and at all other times when requested by the said Board

SEC 2 No milk shall be sold or exposed for sale in the Town of Montclair except milk from cows stabled under light, dry and well ventilated conditions, and in all other respects conforming to the requirements hereafter set forth, viz

a Each cow shall have at least three feet in width of floor space when fastened in stanchions, and in all cases where no adequate artificial means for ventilation are provided, each animal shall have an air space of at least five hundred (500) cubic feet

b All stables for shelter of said cattle shall be provided with a tight, dry floor The manure drop shall be water tight, and if constructed of wood shall be asphalted, tarred or otherwise made non absorbent

c The walls and ceilings of said stables shall be whitewashed whenever it may be deemed necessary by this Board of Health

d Manure shall not be allowed to accumulate in large quantities in stable yards, nor near the buildings where the cattle are kept, and when stored temporarily in such places it shall be removed at least once per month The said stable yards shall be drained and kept in a clean, dry condition and no accumulation of household garbage vegetables or other putrescible matter shall be allowed to remain or decay in said stable yards

e Cattle shall at all times be kept in a clean condition, and udders shall be washed, hand rubbed or wiped with a clean, damp cloth before each milking

f No milk shall be sold or offered for sale or distributed in the Town of Montclair, unless the cows from which it is obtained have, within one year been examined by a competent veterinarian and are free from diseases dangerous to the public health But this shall not be construed as forbidding th sale or use of milk from cows not tested with tuberculin

g No milk shall be sold or offered for sale or distributed i the Town of Montclair, obtained from any cow that has calve within ten days or from a cow which will come in or calv within sixty days

SEC 3 No milk shall be sold or exposed for sale in the Tow of Montclair, except milk produced from cattle fed and watere under the following conditions All food given to such cattl shall be fresh, sweet and wholesome The use of either distillery slops or fermented brewer's grains is prohibited, and thei presence on any dairy premises will be considered sufficien cause for the exclusion of the milk from such dairy from sal or delivery in said town Water supplied to cattle shall be pur and free from all contamination by stable or household drainage, and no well or spring in or adjoining any stable yard shal be used for watering said cattle

SEC 4 All milkers and other attendants employed in an dairy, the milk from which is to be sold or offered for sale o delivered in said town, shall be personally clean Before entering upon their duties connected with the dairy, hands shal be washed, and clothes changed or brushed, and no milk shal be delivered or sold or exposed for sale in said town, produce from dairies wherein the foregoing regulations are not enforced

SEC 5 Utensils used for the collection and transportatio of milk shall, before being used, be thoroughly washed wit pure water and soda or soap, and then sterilized by boiling o steaming

SEC 6 Milk which is to be delivered or sold or offered fo sale in said town shall, immediately upon being drawn from th cow be removed from the stable to a room separate and apar from the said stable, and immediately cooled by submergin the vessel in which the milk is contained in cool water to depth equal to that of the said milk in the vessel The abov mentioned room shall be properly ventilated and lighted an shall be used for no other purpose than that indicated above and shall at all times be kept in a clean condition

SEC 7 The said milk shall be delivered in bottles unles permission for delivery in another manner shall be granted b said Board No tickets shall be used in connection with delivery of milk

SEC 8 If at any time any person or persons having an connection with a dairy from which milk is delivered or sold o offered for sale in the Town of Montclair, or any resident member of the family of any person so situated, shall be stricke with cholera, smallpox, (including varioloid), diphtheria, membranous croup, yellow, typhus, typhoid or scarlet fever, measles or any other communicable disease that may hereafter b declared by this Board to be dangerous to the public health notice shall be given to said Board immediately, by th eowne or owners of such dairy, and no milk produced from the dair of any corporation, person or association of persons failing t give the notice herein required, shall hereafter be sold or exposed for sale or delivered in the Town of Montclair, until special permission therefor has been granted by said Board

SEC 9 Any person, corporation or association of persons violating any of the provisions of this ordinance, shall, on conviction thereof, be liable to a penalty of not less than ten no more than one hundred dollars

SEC 10 All ordinances or parts of ordinances inconsistent with the provisions of this ordinance are hereby repealed

Passed March 25, 1898

D D DUNCAN
President

Attest
R P FRANCIS, Secretary

My friend, Dr J Cheston Morris of Philadelphia one of the best known authorities upon the subject o milk-supply and distribution writes me under recent date and in reply to the question, Where can milk be most satisfactorily produced? 'On a farm where the animals can browse contentedly on green grass near running waters, and can find good shelter, plenty of hay, corn fodder, corn and cob meal in winter warm, well-lighted and aired stables Keep animals clean, dry, well-fed and freely exercised Stimulate them unnaturally and disease may follow Breed only from healthy animals and avoid unhealthy care takers My Devon cows are giving me about five and a half times their weight in milk per *annum*, which furnishes four quarts of cream or four pounds of butte from twenty-eight quarts of milk I think a machine that keeps itself in order and produces a new machine annually, beside five and half times its own weight, without undue urging, a pretty good machine, and I am satisfied I do not believe we can preserve milk as it comes from the cow and with digestibility undiminished for more than thirty-six to forty-eight hours"

Dr Morris refers to a very recent discussion having taken place in Philadelphia over the best methods of handling and distributing milk, resulting in the approval by the Board of Health of the glass jar distribution, well known to have been originally introduced by Dr Morris The advocates of the large-can process of distribution objected to the glass can system on the ground that contagious disease might be carried from house to house by imperfectly disinfected jars, but Dr Morris states, "I showed that I had carried on this method of distribution for more than twenty years without a single case of such carriage, either among customers or at the farm, that for the farmer's own protection, as well as for his profit, absolute practical disinfection for each jar is indispensable"

It is apparent that a rigid supervision under State authority would do much toward the protection of the public, by furnishing milk produced by healthy cattle, kept reasonably clean, sent to market much cleaner and better preserved, in a word, safer for public consumption

As shown by Professor Sedgwick, to a degree at least, it is necessarily an infected article and consequently must undergo decomposition within a limited period, that placed by such a distinguished authority as Dr Morris not exceeding forty-eight hours

Dr Morris' method of requiring each producer to put up his milk in pints and quarts in glass jars, with the name of the dairy and the date of milking has manifest advantages Any defect in the supply or cause of disease, as, in illustration, the repeated occurrence of typhoid fever (epidemics disseminated by the milk-supply) can be easily traced It also stimulates rivalry and fosters a local pride among the farmers It is noteworthy to observe the much better keeping quality of milk thus prepared for the market

Illustrative specimens were shown by Dr Morris, when lecturing upon the subject some time ago in Boston, that were perfectly fresh and sweet when the jars were opened four days after the milking, although subjected to the long journey from Philadelphia

On a model farm near Boston the process of milk preservation is carried on in the following simple and effective manner Having been milked as cleanly as possible, the milk is poured into a receptacle and by gravity finds its way through a series of strainers into an adjoining apartment having no other connection with the stable Here it is quickly refrigerated and put up for market

To aid in a cleaner process of milking, a pail has been devised called the "climax milkpail" It consists of an ordinary pail with a tightly fitting cover with two openings from which funnels project considerably above the surface of the cover The bottom of these funnels is covered with close meshed wire strainers By its use much of the dirt which ordinarily falls into the pail from the udder is avoided Pure rubber covers of a size to enclose the entire teat ending in a rubber tube, to conduct the milk into a closely covered pail could be used without much difficulty after a little practice with them on the part of the milker They would be of the highest service, cheap, easily cleaned, and with reasonable care, furnish an almost absolutely sterile milk

Mr Horlick of Racine, Wis, quite recently described to me a most ingenious device for milking cows by a machine, the power of which is furnished by an electric motor It is said in many ways to work satisfactorily, and by an ingenious combination may be applied to the milking of even fifty cows at the same time All these methods are advancements in the right direction, to which may be added what, in a limited degree, has already been carried into effect—the process of sterilization by the application of a low grade of heat, Pasteurization that is, maintaining the milk for a considerable period at a temperature of about 170 degrees F, not high enough to be detrimental to the albuminoids Even if sterilization by this method is effected, contamination is sure to follow upon subsequent exposure to bacterial infection

The secretion of the mammary gland is the product of certain epithelial cells By their transforming power they manufacture from the blood a mixture of fat, sugar, and salts in a watery solution which we call milk It is in fact strictly an animal food of unstable composition and is easily decomposed under the action of bacterial development A pound of very lean beef and a quart of milk each contain about the same quantity of actual nutritious material The taste which is objectionable in sterilized milk may be modified by pouring the milk from one receptacle to another, thus aerating it In certain parts of the country Pasteurized cream has become popular It is more conveniently handled and, freed in large measure from bacteria by the process, will keep for days without souring It is objected to because of its lack of consistency, being thinner and less viscous The Wisconsin Agricultural Experiment Station, after a careful study of the subject, recommends the use of lime dissolved in a solution of granulated sugar This is called "viscogen," on account of its viscous producing properties, and the treated products are called visco-cream, visco-milk, etc Only one part of viscogen to one hundred and fifty parts of cream is required, and the small quantity of lime added according to this rule only amounts to about four parts in 10,000, which, instead of being detrimental to the health, is rather beneficial

In several European cities sand filtration of milk is employed at a central depot after its arrival from the country The filters consist of large cylindrical vessels, divided by horizontal, superposed compartments, of which the middle three are filled with fine, clean sand, sifted into three sizes, the coarsest being placed in the lowest and the finest in the topmost of the three compartments The milk enters the lowest compartment through a pipe under gravitation pressure and, after having traversed the layers of sand from below upward, is carried by an overflow to a cooler fed with ice water, whence it passes into a cistern, from which it is directly drawn into locked cans for distribution Milk thus treated is not only free from dirt, but the number of bacteria is reduced to about one-third In new milk the loss of fat is said to be very slight, but the quantity of mucus and slimy matter retained in the sand is surprising The sand is renewed each time the filter is used

The live stock interests of our country are so enormous that it is difficult to form a just appreciation of their value According to the census of 1890, there were that year in the United States between fifty-one and fifty-two millions of cattle, calves born over sixteen and one-half millions, and the total number of milch cows were 16,511,950, of an estimated value of over $4,000,000,000' The milk-supply for 1889 reached the enormous aggregate of 45,210,125,567 gallons, worth on the farm over $651,000 000

The census of 1890 gives us the latest reliable data, but there has been a material increase in the value of the milk-supply in excess of the ratio of the increase of population It is only by comparison that such enormous amounts can be appreciated The total value of all the mineral and metal products, including coal, of 1896 are given as follows

Belgium	$100,000,000
France	110,000,000
Germany	300,000,000
United Kingdom	340,000,000
United States	737,958,761

Some years since Mr Edward Atkinson of Boston showed that the *hen* was a greater producer of material wealth than the gold mines of the country From the above figures we note that the *cow*, by her milk product alone, is a source of wealth not far below that of all the mineral products of the United States

The butter product for 1889 was 1,024,223,468 pounds and the cheese product for the same year was 18,726,818 pounds The average quantity of milk produced for milch cows during the year 1889 was $315\frac{54}{100}$ gallons, and to each individual in the United States for the year was $83\frac{1}{5}$ gallons, or nearly one quart per day for every man, woman and child in the entire country Estimating that six-tenths of the product was canned and shipped for distribution, the amount thus disposed of was 25,008,602,718, analytically 87 per cent is water, and at least 75 per cent of the water should be removed before shipment The amount of *water* thus expensively distributed with only attendant loss, is so enormous that it can be appreciated only by means of comparison—18,756,452,037 pounds equal 9,378,226 tons =468,911 car loads each of 20 tons =11,725 train loads, each of forty cars =2931 miles of continuous trains, reaching nearly from the Atlantic to the Pacific Oceans if thus placed to span the continent!

Were it possible to eliminate this enormous percentage of waste without damage to the resultant product, the gain would be almost beyond comprehension

G W Goddard of Cambridge gives the following figures from New York City Board of Health Report 1896, pp 90, 91 Daily average of cows' milk and condensed milk shipped to New York City Milk 828,612 quarts, cream 16,000 quarts, condensed milk 8600, a total of 853,212 quarts To give milk equivalent to the cream add 64,000 quarts To give milk equivalent to the condensed add 19,800 quarts, making a total of milk-supply 937,212 quarts condensed 75 per cent of the whole, 87 7 per cent of above is produced in New York State in New York City 2200, in State 1,112,370, in all 1,114,570 cows Total cost at five cents per quart, over $60,000,000 per year

The Agricultural Department at Washington has just issued one of its bulletins, treating of the milk-supply of Boston and other New England cities, and prepared by Mr George M Whitaker executive officer of the Massachusetts State Dairy Bureau The Greater Boston, namely, within a radius of ten miles from the State house, contains a population of one million, or eighteen per cent of the population of New England

About three-fourths of the supply of milk for this section is sent by railroads, the greatest distance for direct shipment is 140 miles For the most part the milk is conveyed in cans especially constructed for this purpose with refrigerator closets, etc The milk thus supplied is from eighteen to thirty hours old before it reaches the consumer Boston was the pioneer city in this country in the transportation of milk by railroad The first man to engage in this business was Jason Chamberlain, who began operations sixty years ago upon the Boston & Worcester railroad He sold milk at twenty-five cents per can of nine and a half quarts In 1843 there was printed in the *New England Farmer* an article upon the subject It states "We have learned that one man brings in upon the Worcester railroad 200,000 gallons annually This is supposed to be one-tenth of all that is sold in the city This at twenty cents a gallon costs the citizens $400,000 per year" Today fully three quarters of the milk supplied to Greater Boston passes through the hands of large wholesalers, locally known as contractors There is a considerable increase in the consumption of milk in Boston each year The total for 1895 was about 18,000,000 gallons—in 1897 the supply had increased nearly 700,000 gallons Within the ten-mile radius there are over 7000 cows

Mr B F McIntyre, of McKesson & Robbins, New York, has recently published some interesting articles upon the condensing of milk by a process of refrigeration when the milk is in agitation His more recent publication is found in the *Milk Reporter*, January, 1897 His experimental studies were carried on at Cattaraugus, N Y, under favorable refrigerating conditions The product met the approval of dealers from both the commercial and economic standpoint His process is briefly summarized as follows

1 Reducing the bulk of the milk by conversions of the water of the milk into ice, instead of vapor or steam

2 The making of the ice on the surface only of the milk, by elevation of the freezing pans in an atmosphere of zero temperature or thereabouts

3 Frequent breaking of the surface ice so that fresh liquid is presented to a freezing effect, with gradual submersion of the broken ice as the bulk of ice increases

4 Standardization of the product

Considerable difficulty was experienced in the selection of milk free from "cow odor" Milk with a perceptible taint of animal odor is unfit for condensation by cold processes as thereby these odors are intensified The fats are removed by a cream separator which should be set to run heavy cream and which should assay not less than fifty per cent milk fat Running into the separator is of much value in freeing the milk from dirt and foreign animal products From the separator the fat free milk was run over a bank of horizontal copper pipes through which ice water was circulated reducing the temperature of the milk from 80 to 35 per cent F By this process of condensing there is no thickening of or chemic change in the albuminoids, such as takes place when the milk is reduced by heat in vacuo A condensation of five and one half gallons to one gallon is required to produce a product with the desired consistency By this freezing process one hundred gallons of skim-milk ar [illegible] to thirteen [illegible] thi [illegible] milk wh [illegible] milk, [illegible]

[illegible]anic

Eighty-seven gallons of water in the milk are formed into ice An average sample of the snow-like ice, when melted and evaporated to dryness contained 2 per cent of residue A final step in the process was the admixture of the heavy cream in proper proportions with the concentrated fat free milk In keeping properties the new form of condensed milk is superior to whole milk, as the freezing temperature at which the milk is held is destructive of some forms of germ life common to milk, and the natural life of the preparation is prolonged by this partial sterilization"

I am in receipt of letters from Mr McIntyre, of recent date, in which he states, that "unfortunately the plant at Cattaraugus has recently been burned," and in reply to my inquiry as to the expense attendant upon this process of condensation, he states "The cost of the manufacture of ice *per se* from milk is not so very much greater than making it from water My process could be designated as a method to produce ice in crystal form, instead of in solid or cake form, and the solids of the milk might be considered as a foreign admixture to the water being subjected to the freezing effect I claim, and have the judgment of experts, that my process will produce as much ice daily from a given weight of coal, as will be produced in the ordinary ice-making process Ice made from distilled water is sold in New York in midsummer at $2 00 per ton"

If the condensation can be carried on by a process by which the water of the milk can be extracted at any such cost as above estimated, it will at once be accepted as of the largest value It seems feasible and merits a careful consideration, as introducing a possible new factor of the greatest value in furnishing economically a daily product of such an indispensable character as milk

The condensation of fluids in vacuo has been economically conducted, at a very recent period, at a much lower rate of temperature than was formerly deemed possible I am advised by two New York chemists that one of our large manufacturers of malt products is successfully carrying out a process with the temperature as low as 110 degrees F, in vacuo and it is believed not improbable that milk can be evaporated to dryness at a temperature of 100 degrees F This temperature would scarcely affect in any way the albuminoids and would leave a product unchanged except for the abstraction of the water

It seems thoroughly feasible to treat milk in large quantities by abstracting the great bulk of the water through refrigeration, thus practically sterilizing the resultant product This product, treated by evaporation, either in vacuo at a low temperature or by a warm air blast, the heat-point of which is regulated so that the resultant product may be in the form of granules, cakes, or of a consistency not unlike that of butter or cheese, all possessing good keeping quality, would, upon the addition to it of the proper percentage of water, furnish fresh milk at will

In these days of rapid progress the public is accustomed to accept radical changes, when demonstrated for the better, with very little of comment The immense problem which I have thus all too briefly outlined, viz, furnishing vastly more economically a safe and satisfactory milk-supply is worthy the attention of all sanitary scientists Clearly formulate the *want* and show the manifold advantages resulting from *better methods,* and science at once steps in and demonstrates the *way* for their attainment This, I believe, will early be accomplished The milk-supply of the world will be economically revolutionized, to the manifest advantage of every individual

A further study of Mr McIntire's processes increased my interest in the subject until, after a correspondence of some length, I induced my friend, Mr George M Goddard of Cambridge, a well known expert in the processes of refrigeration, to visit New York and carefully examine the method advocated by Mr McIntire The outcome of this, through Professor Sedgwick, has been to secure the active co-operation of Mr Edward Burnett, who has devoted a large share of his life to the scientific studies relating to agriculture, and especially the better methods of milk production and distribution Mr Burnett's large milk plant at Southboro was placed at Mr Goddard's disposal and the summer occupied in a careful practical study of the processes Samples of the concentrate were distributed for experimental use Those which came under my observation proved in every way satisfactory The oldest specimen examined, having been kept thirteen days, was perfectly sweet when opened A careful series of bacteriologic tests, by the request of Professor Sedgwick, were undertaken by Prof G M Holman, of which the following tables furnish brief samples

TABLE I —First Series (Aug 1, 1898)

	Sample	Bacteria per c c	
1	Whole milk	267 400	Numerous liquefiers
2	Skim milk (pan)	432 600	
3	First condensation	394 200	Odorless plate
4	Second condensation	175 000	Mouldy cheese odor
5	Third condensation	24,000	Sweet butter odor 1100 liquefiers
6	Fourth condensation	19,400	Sour milk odor few liquefiers
7	Past'rized cream prod	175,000	Mouldy odor
8	Raw cream product	2 616 100	Many moulds
9	Raw cream product	2,759,400	
10	Pasteurized cream	0	Plate covered with moulds (mucus)
11	First ice	6 370	Some moulds
12	Second ice	3,444	Some moulds, badly liquefied
13	Third ice	1,470	Many moulds badly liquefied
14	Fourth ice	17 000	
15	Ice from 19 hours' freeze (July 20 21)	6,035	

TABLE II —Second Series

Sample	Bacteria per c c	
1, Skim milk	152 400	
2 First condensation	10 200	
3, Second condensation	7 700	
4, Third condensation	6 100	
5, Fourth condensation	2 000	
6, First ice	300	
7, Second ice	185	
8 Third ice	5,320	
9, Fourth ice	7 300	
10, Raw cream product	612 360	
11 Pasteurized cream product	9 200	
12 Pasteurized cream	11,300	
13 Raw cream	14,742 000	Badly liquefied, bad [smelling plate
14 Borden s evaporated cream	0	
15, Boston condensed (unsweetened)	1 134 000	

TABLE III —First Series

Sample	Solids, per cent	Ash per cent	Fats, per cent
Whole milk	13 29	0 87	4 5
Skim milk	9 32	0 7	
Raw cream product	34 73	1 61	15 36
Fourth condensation	17 45	2 02	
Nineteen hours' ice (20-21)	0 49	0 05	
Third ice	1 38	0 07	
Second Series			
Raw cream product	44 1		19 7
First condensation	15 0		
Second condensation	23 39		
Third condensation	35 49		
Fourth condensation	36 18		
First ice	1 15		
Second ice	2 47		
Third ice	5 96		
Fourth ice	21 97		
Borden's condensed	30 2		3 7
Boston condensed	38 5		0 3

No pathogenic germs in "Refrigerated Condensed"

Test from run of Sept 3, 1898

Samples	Bacteria per c c	Solids per cent
1, Whole milk	90 000	13 43
2 Skim milk	78 500	9 34
3, Raw cream product	17 400	39 88
4 First condensed	17 900	14 28
5, Second condensed	6 800	22 73
6 Third condensed	8 300	24 6
7 First ice	1 382	0 37
8 Second ice	5 700	4 25
9 Third ice	11 250	8 04
10 Third ice, after three extractions	5 100	18 85
11, Raw cream	14 000 000	
12, Pasteurized cream	37 000	
13, Pasteurized cream product	5,600	

Reduction of bacteria from the whole milk to the finished (Pasteurized cream) product 94 2 per cent

It will be noted that the bacteria are very greatly diminished by the refrigerating process, although the product is not absolutely sterile A special plant is now being established, where it is believed that much better work may be accomplished with a great reduction of cost The daily output will be at the beginning 600 gallons reduced to 100 gallons, the product having already been disposed of It is confidently believed that the result will assure an abundant reason why the milk distribution may be greatly improved, giving a far more reliable product, of good keeping quality, at a much less cost to the consumer If, for commercial reasons, it does not prove profitable to carry the process of concentration above the result outlined, the ordinary family supply of milk may be furnished weekly instead of daily and a far better product obtained than that of the present

I have in my possession a specimen of powdered milk made by Mr McIntire nearly two years ago, in a state of good preservation, thus demonstrating that the so called butter fat of milk can be preserved in mixture Mr McIntire is of the opinion that it is easy to concentrate the solids of milk to a consistency not unlike butter or soft cheese, which will require only the addition of a proper amount of water to restore it to a sweet, wholesome, fresh milk, containing its proper quantity of normal cream The keeping quality of this product will be such that it will come into world-wide distribution

---

IMPORTANCE OF REGULATING DIETETICS

IN HARMONY WITH THE PHYSIOLOGIC LAWS CONTROLLING DIGESTION, NUTRITION AND WASTE, AND SOME OF THE INCONSISTENCIES IN PREVALENT DIETETIC PRACTICES

Presented to the Section on Physiology and Dietetics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY N S DAVIS, M D
CHICAGO, ILL

That the quantity and quality of food for man, and the times for taking it, should be regulated in harmony with the physiologic laws governing the processes of digestion, assimilation, nutrition, disintegration and excretion, is too obvious to the intelligent physician to require argument or illustration

The fact that all living animal structures are constantly undergoing disintegration atom by atom or cell by cell, renders it necessary that there should be constantly present in the fluids permeating the structures, new atoms or cells or vitalized materials, ready to take the place of materials lost, and thereby maintain the integrity of the tissues

During childhood or youth, or period of growth the amount of food assimilated must exceed the amount lost by disintegration or there would be no progressive development of the various parts of the body But in adult life the amount of true food or ingests each day should equal as near as possible the amount of loss by the processes of waste It is not practicable, however, to establish the actual amount of food required daily by any individual in health, by simply determining the average amount of waste he suffers, unless such determinations include the variations produced by different degrees of physical exercise and mental activity For it is well known that the activity of both nutrition and waste are much influenced by the amount of physical exercise accomplished in a given time, while it is equally true that mental cheerfulness, confidence and activity increase all the physical functions, and that grief, despondency and fear diminish the same Another factor of great importance, though often omitted when considering the subject of dietetics, is the quantity of oxygen received through the lungs into the blood in a given time, and the conditions of the atmosphere from which it is derived In the popular mind, diet or food is considered only in reference to the materials received into the stomach in a solid or liquid state, while no thought is given to the quantity or quality of the atmospheric air supplied to the air-cells of the lungs, from which oxygen is being constantly taken up by the blood currents and distributed to every living structure in the body When we consider, however, that the oxygen thus derived is nature's excitor of all nerve sensibility and muscular contraction, as well as the active oxidizer of all waste products we are compelled to recognize it as an essential factor in all the processes of assimilation, tissue metabolism, and excretion And it becomes as necessary for each individual to secure a sufficient amount of pure air for the lungs, as it is an adequate supply of pure food for the stomach, for universal experience has shown that without a constant supply of the former, the digestive and assimilative organs soon cease to make a healthy and efficient use of the latter But as nature supplies the air in unlimited quantity at all times without man's labor, his chief ingenuity has been exercised in devising ways and means for either impairing its quality or limiting the quantity to be inhaled, thereby limiting the quantity of its oxygen supplied to the blood This is seen, not only in the serious interferences with respiratory movements by erroneous habits of dress for the day and the occupancy of small or ill-ventilated rooms for the night, but also in the construction of over-crowded, ill-ventilated and uncleanly houses and workshops, of every kind, for working men and women, by which they are compelled to use both an impure and an inadequate supply of air alike in the shops and the homes

Nor is this all, for one of the most injurious effects of the enormous quantity of alcoholic drinks and tobacco used in this and other countries, is their influence in lessening the efficiency of respiratory movements and the capacity of the blood to receive and distribute oxygen to the tissues of the body Experimental therapeutists have fully established the fact that alcohol, by its anesthetic or paralyzing influence on the respiratory nerve center, diminishes the depth of the respiratory movements, thereby lessening the amount of air used, in direct proportion to the quantity taken, and at the same time by its action on the hemoglobin and corpuscular elements of the blood it lessens the [illegible] of that [illegible] or [illegible] from the pulmonary air-cells and to carry it to the various tissues of the body It is by this duplicate interference with the reception and internal distribution of oxygen, that alcohol retards tissue metabolism, encourages the retention of effete products, and lessens the vital resistance to all toxic agents, including pathogenic bacteria, as was so strikingly demonstrated by the recent experiments of Professor A C Abbott

The effects of the use of tobacco on the important functions of the human body have not been demonstrated by as much scientific investigation as those of alcohol, but enough has been done to prove that enough of the active constituent called *nicotine* is imbibed either by smoking, chewing or snuffing to lessen the sensibility of the nervous and muscular structures and to impair the steadiness and efficiency of both the cardiac and respiratory functions In doing this it necessarily lessens the oxygenation and decarbonization of the blood, and thereby impairs all vital processes in proportion to the quantity used This has been shown most strikingly by comparing the progress, both physical and mental, of student smokers, in the same classes and subject to the same regulations in other respects, in the schools of France and in some of the colleges in the New England States These comparisons have uniformly shown that the students who use tobacco, chiefly by smoking, averaged less physical growth and less progress in mental attainments than those who did not use it—the records extending through school periods of three and six years [1] This effect of tobacco in retarding the physical development and mental progress during childhood and youth has been so fully demonstrated that all investigators agree that its use should be wholly avoided until the commencement of adult age But if its narcotizing effects upon the cerebrospinal nerve structures and the organized elements of the blood are sufficient to retard both mental and physical growth and activity before the age of twenty years, will not the same narcotizing influence just as certainly lessen the activity of the same structures at any time after the age of twenty years, and thereby lessen the vital resistance to morbific agencies and shorten life?

The use of tobacco not only lessens the efficiency of respiratory movements and the internal distribution of oxygen, but it exerts a special deleterious influence on the heart, often disturbing the uniformity of its rhythm and impairing its force, and not unfrequently causing sudden death by cardiac paralysis [2] From the foregoing statements it is evident that a just consideration of dietetics must include all ingesta habitually used, whether solid, liquid or gaseous, through the respiratory as well as through the digestive organs And such ingesta must not only contain a sufficient quantity and variety of materials to equal the amount of waste from day to day, but they must also be free from such elements as are capable of impairing one or more of the important processes concerned in assimilation, nutrition and secretion

The ingestion of oxygen and the elimination of carbon dioxid through the lungs is a continuous process, though varying in rapidity during different parts of the day in harmony with the greater or less activity of other functions Thus oxygen is received and carbon dioxid eliminated more rapidly during active muscular exercise than during repose The same increase takes place during the first two hours after the ingestion of ordinary food into a healthy stomach, and becomes the slowest in the early morning when the stomach and duodenum are most free from food These variations are accompanied by corresponding changes in the temperature of the body and in tissue metabolism, and being strictly physiologic, they have an important bearing on the proper regulation of diet for the stomach In all the higher orders of animals the digestive organs and the mental part of the brain are designed for regular diurnal periods of activity and rest And it is still more true in regard to these organs in men, whose greater mental development and more varied occupations render continuous feeding impracticable If the stomach, in its capacity and the laws governing its action, render it necessary to take food at stated intervals, it is evident that such intervals should be sufficient to complete the digestion and leave a period of gastric repose before the next meal As a judicious meal of wholesome foods requires for its complete digestion from three to four hours, and if we add from two to three hours for gastric repose, it would indicate the desirability of not eating in health more frequently than once in six hours during the day, and double that time for the night, when the mind is supposed to rest in sleep The very general custom of taking three meals per day is, therefore, in harmony with the physiologic laws governing the functions of the body The amount and variety taken at each meal should be sufficient to supply all the elements necessary for growth and repair, and in such form as to be readily acted upon by the salivary gastric and pancreatic secretions, and assimilated or vitalized by contact with the oxygen and corpuscular elements of the blood, and thereby fitted to become a part of living organized structures The rapid progress of organic chemistry during the middle part of the present century, by which both the ultimate and proximate elements entering into the composition of the various structures, organs and secretions of the human body were made known, as well as the composition of all important food products, led physiologists to adopt an almost exclusive chemic theory of digestion, assimilation and nutrition Finding the salivary, gastric, pancreatic and hepatic secretions each containing active constituents capable of combining with, or modifying some of the proximate elements of the food taken, the chemico physiologists soon began to manufacture in their laboratories substitutes for, or aids to, the natural secretions, and have continued until the drugstores are filled with an almost endless variety of pepsines, peptones, enzymes, etc , each one of which is guaranteed to digest, or more properly dissolve, a given quantity of fibrin, albumin or protein in a test-tube kept at a proper temperature Not satisfied with thus furnishing us with artificial aids to our natural digestive fluids, they have undertaken to condense, modify or pre-digest our food products before we eat them, to such an extent that we are at every turn urged to go for food to the apothecary shop, laboratory or the "liquid beef" manufactory, instead of the grocery, the meat-market and the farm And yet it is probable that disorders of digestion and assimilation were never more prevalent than at the present time, when every such disorder is sought to be corrected by some new food preparation or artificial food digestor, instead of seeking out the causes of the disorder and endeavoring to remove the same The natural digestive fluids are the products of vital activity in living structures The salivary glands, the gastric tubules, the pancreatic and hepatic cells and the structures in which they are imbedded, are all endowed with vital properties, and the digestive and assimilative processes are *vitalizing* and not merely chemic changes The chemist may mix any one or all the elements of food with either artificial or natural digestive fluids in glass tubes or earthen vessels and he may effect their solution, but he would never produce either true chyle, lymph or blood, much less an organized structure As well might he put an unimpregnated ovum into his incubator, and expect in due time to have a live chicken instead of a decayed and odorous mass within the shell While it is important that the quantity and quality of our food, and the times for taking it, should be duly proportioned to the amount and kind of retrograde metabolism or loss, it is equally important that we avoid those influences that habitually interfere with the due oxygenation and decarbonization of the blood or depress the functions of the pneumogastric and vasomotor nerves

---

[1] Effects of Nicotine by J W Seaver, A M , M D , Quarterly Journal Inebriety, April 1897, p 132

[2] Lectures on the Action of Medicines, Lauder Brunton Pp 321-323 1897

The occupancy of overcrowded or ill-ventilated rooms either for sleep or work, the neglect of sufficient open-air exercise during some part of the day, the eating in haste and the indulgence in intense mental activity, anxiety or violent emotions directly after meals or until late hours of the night, and the ordinary use of alcohol and tobacco, are the chief causes of those digestive disorders that have given us the credit of being a nation of "dyspeptics" And an analysis of their mode of action will show that all of them, either directly or indirectly, lessen the efficiency of the respiratory function and the internal distribution of oxygen That close and persistent mental application in doors lessens the depth of the respiratory act and consequently lessens the quantity of air used in the lungs and of oxygen imparted to the blood, has long been known

And mental anxiety and depressing emotions much increase this effect, and sometimes suspend the secretion of gastric juice entirely while the stomach is full of food, while the effect of both alcohol and tobacco have been explained already If it is an established fact, as previously stated, that oxygen is taken up from the air cells by the blood currents much more rapidly during active digestion of food, then certainly all the causes enumerated above should be avoided to the greatest possible extent during the taking of food and for one or two hours thereafter

Our food should be taken with mental cheerfulness, without haste, and in an atmosphere of fresh, pure air and for the next hour, at least, only moderate mental or physical labor should be engaged in and all obstructions to full respiratory movements avoided The general observance of this simple dietetic rule would add immensely to the sum of human happiness, and materially prolong the average duration of human life

---

A Valued Friend —She Dr Reaper tells me that he is not only your family physician, but a warm friend of yours He Oh, yes indeed, and I can recommend him very highly She Has he ever treated you? He No, not personally But he was very successful with a wealthy aunt of mine —*Hartshorn's Roller*

FUNCTIONAL NERVOUS DISTURBANCES IN PULMONARY INVALIDS

Presented to the Section on Neurology and Medical Jurisprudence at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY S G BONNEY, A M, M D
Professor of Medicine in the University of Denver Visiting Physician St Luke's Hospital
DENVER COLO

During a six years' experience with pulmonary tuberculosis in Colorado, with opportunities for continued observation of cases, I have been enabled to note the very frequent association with this disease of the various forms of functional nervous disturbance The conviction has arisen that there exists a relation more intimate than is perhaps generally recognized between these conditions, which may be justly considered the two most prevalent of American disorders

A brief review of my clinical observations suggests itself as a means of directing more attention to this relationship, in the hope that ultimately further researches may afford a clearer conception of the subject Without attempting to introduce any physiologic considerations, I will simply present the result of my own experience with reference to etiologic relations, prognosis, climatic influences and management It is with much hesitation that I submit this report, realizing only too well the opportunities for error in the compilation of statistical records and the frequently resulting fallacies as to conclusions I may state that while rather definite impressions as to certain phases of the subject have necessarily been received from daily general experience prior to the present inquiry, the study is here pursued without reference to any preconceived conclusions, with a view to securing more accurate information upon which to base opinions until then held in reserve I am appreciative of the fact that the value of work of this nature depends entirely upon the authenticity of the records, the degree of intelligent discrimination possessed by the observer, and the most rigid and conscientious attention to detail

Unfortunately, in a considerable number of the cases my records are incomplete from the standpoint of the neurologist Some of the histories were imperfectly taken in this respect, and I am unable, therefore, to obtain complete data as regards family history and other etiologic considerations It is hoped however, that the essential data are sufficiently complete to warrant approximate conclusions I have preserved a record of 350 selected cases of pulmonary tubérculosis seen in private practice during recent years to Jan 1, 1898 These cases have been subjected to continuous observation and have been carefully recorded The list does not embrace those with very extensive infection, and hence with admittedly unfavorable prognosis Neither are there many included with incipient trouble The cases, on the whole, may be said to represent fairly the average class of pulmonary invalids in Colorado, exhibiting as a rule upon arrival moderately extensive and rather active infection I make no effort at this time to classify the cases or report results with sole reference to the tubercular involvement, as this has been done to some extent in a previous paper[1] It is my object to analyze them simply with respect to the relation between the nervous manifestations and the tuberculous condition Of the 350 cases, 220, irrespective of any nervous complications, are found to have shown improvement in Colorado By improvement, without any further explanation, I allude to the varying degrees secured of partial arrestment About two-thirds of the cases, taken as they come, have done well through a fairly extended period of observation, not including those who improved temporarily and later failed through intercurrent disease, accident or individual indiscretions

---

[1] Boston Medical and Surgical Journal Sept 16 1897

I have divided the entire list into five classes with distinct reference to the nervous condition

Class 1 numbers 164, or nearly half of all the cases, and represents those who may be considered to be free from any nervous manifestation whatever Of these, 111, or nearly 68 per cent, have shown pulmonary improvement in Colorado

Class 2 numbers 98, or nearly one-fifth of the entire list, and comprises those possessing distinctly nervous temperaments, but not presenting definite neuroses Sixty-four of these have done well Percentage of improvement, 65

Class 3 contains 39, or rather more than one-tenth of the whole, and embraces those exhibiting slight neuroses Twenty-four, or 61 per cent, have improved Nearly all of this class were subjects of mild neurasthenia

Class 4 has 33, or less than one-tenth of the whole, and includes those presenting *well marked* neurotic disturbances Thirteen, or 39 per cent, have improved These cases manifested the severer forms of neurasthenia, chiefly of the depressed type, and moderate degrees of hysteria

Class 5, numbering 16, comprises those individuals with pronounced neuroses, not included in Classes 3 or 4, but in whom the pulmonary involvement was very slight or insignificant Eight, or 50 per cent, have improved with reference to the tuberculosis All of this class were markedly hysteric

In commenting upon these results it is interesting to note that the percentage of improvement in those with distinct nervous temperaments without neuroses, is nearly equal to that obtained in those devoid of all nervous tendencies, and is slightly above the average of the cases as a whole A rational explanation of this would appear to be that such persons are usually more keenly alive to the importance of their condition, and are therefore more susceptible to advice, and more conscientious in following instructions as to the details of their mode of life While, speaking broadly, the phlegmatic temperament in tuberculosis, is more conducive to good results than the irritable or nervous, I have repeatedly observed the greater ease with which the active co operation and obedience of the patient could be secured in those with moderately nervous tendencies With such there is usually no occasion for argument or explanation A simple statement of directions is frequently sufficient to entail implicit compliance As the nervous disturbances increase to some extent, however, the balance is at once thrown to the disadvantage of the individual, and in case of marked neuroses, is exerted powerfully in preventing or retarding improvement Such influence is well illustrated in Class 5, where the pulmonary involvement per se in each instance was so slight as to almost insure recovery

The further consideration of these cases is limited to Classes 3, 4 and 5, as being the only ones concerning which it is profitable to enumerate statistics In these three classes out of a total of 88, 45 are shown to have improved, and 43 to have done badly Of the latter number, however, 12 had gained for a time in Colorado, but subsequently failed for reasons not to be attributed properly to climate In Class 3 a history of neurotic inheritance could be traced in 18 instances, or nearly half the cases Of these 11 have shown pulmonary improvement In Class 4, 21, or nearly two thirds, have shown evidence of hereditary nervous influence Ten of this number have gained in Colorado with respect to the tuberculosis In Class 5 hereditary taint was strong in 12, or two-thirds of the entire class Six have shown slight pulmonary or general improvement

Of the 88 cases in these three classes, 51 present a history of an inherited nervous tendency, 13 may be fairly considered to be acquired, and 24 are in doubt, with no tangible means of ascertaining the facts

Somewhat to my surprise the relative number of cases improved appears to be not materially different in those with inherited tendencies from the proportion obtained for the entire list, or for those without neurotic taint It is important to note, however, that there has been a decided difference observed as to the *degree* of improvement, the gain usually being much slower and frequently more unsatisfactory in those with a history of nervous inheritance I have occasionally recognized the pure acquirement of the nervous disturbance, or at least, its conspicuous aggravation to be developed from an intimate association with others afflicted with pronounced neurotic conditions This has not been unusual in the case of husband and wife I have not infrequently seen the development of nervous phenomena among several patients at the same resort attributable to the influence of a single subject of marked hysteria

Thirty of the 88 cases with functional disturbance presented a history of inherited predisposition to tuberculosis Of these 17 are also classed as subject to hereditary nervous influence Fourteen of the 30 cases have done well in Colorado, despite the tubercular predisposition Of the 17 cases, however, subject to *both* tubercular and neurotic hereditary influence, but 5 have shown improvement The combination of the neurotic with the tubercular taint is apparently a factor of great prognostic moment

The cases may be divided, irrespective of the degree of nervous disturbance, into three classes, with reference to the extent of pulmonary involvement Without entering into a detailed explanation of the method of classification it is perhaps sufficient for present purposes to state that the first division includes those with comparative slight infection, the second those with moderate involvement, and the third those with extensive tubercular invasion

Class A numbers 30, of whom 23 have shown pulmonary improvement

Class B also contains 30, with 19 showing improvement

Class C includes 28, of whom 3 have done well

Attention is called to the fact that all the first class have gained except those with severe nervous complications, that more than half of the second class have improved, regardless of the degree or character of the nervous disturbance, and that, as illustrated in the third class, an extensive tubercular infection in neurotic individuals presents but slight hope of improvement

As regards sex, there are 50 males and 38 females The relative number of males is small in proportion to the number in the entire list, from which these cases are selected Of the 350 cases, 243 are males and 107 females Thus only about one-fifth of the males are found to be subject to functional nervous disturbances, as compared with a little over one-third of the females Twenty-two of the males with nervous disturbances, or 44 per cent have gained, while 23, or over 60 per cent of the females have improved It is interesting to compare these figures with percentage of improvement obtained for males and females in the entire list In the latter case the results are nearly equal, the female having a trifle over and the males a little under 63 per cent These results as to the relative improvement in the sexes, singularly correspond with those obtained in a previous analysis of 200 cases in which the percentage for each sex was 69 The relatively greater gain made by the females with nervous tendencies over the males, is, I think, a striking confirmation of my former deductions concerning the influence of sex upon prognosis and management I will quote briefly from my conclusions at that time[2]

> Despite obvious adverse conditions, and contrary to established conclusions, the female has responded to the favorable influence of the climate equally with the male
>
> Lest this be regarded purely as an instance of the strange fallacies of statistics, I offer several possible explanations in support of my results
>
> In Colorado, the question of success or failure in the effort to secure arrestment depends largely upon the ability of the individual to conform to a proper regimen of daily life, entailing for its greater perfection certain physical and mental requirements These, I believe, are possessed to a greater extent by the female
>
> I can not see that the separation from family is essentially harder for her to bear than for the male On the contrary, she seems to adapt herself to strange conditions quite as quickly and as comfortably While, in general, less opportunity is afforded for an existence in the open air, with judicious exercise, a life of more complete rest is assured, with perhaps many hours of sunshine There is less chafing under restraint, less of the cares and responsibilities of life, less tendency to acts of imprudence, and, from my experience, more implicit obedience to detailed instructions
>
> It is but fair to add that the financial circumstances of the females in Colorado are in general relatively superior to those of the male She does not usually seek change of climate unless proper provision has been made for her support

If these premises are correct it is easy to understand how the female, although obviously more subject to neurotic conditions and more susceptible to nervous influences, nevertheless, in the face of the tubercular infection, is better equipped by virtue of her inherent and acquired tendencies, to withstand their unfavorable influences upon the course of the pulmonary disease

It may be mentioned further that the improvement was more frequent in those who were relieved from domestic cares and responsibilities of children As regards previous occupation it is enough to state that the gain in Colorado was decidedly more pronounced in those who had led sedentary lives Two thirds of these cases were Americans, the Irish and Hebrew races also showing a comparatively large number with nervous derangements

With reference to the *character* of the *nervous* disturbance I am unable to effect a satisfactory classification As the cases have been observed purely from a clinical standpoint, I will only allude briefly to the general nature of the neurotic manifestations, recognizing the difficulties of elaborating an arbitrary analysis The cases are divided in a general way into three classes, without reference to special symptoms

The first includes thirty four cases, presenting upon arrival evidences of considerable general restlessness with apparent exaltation of nerve forces Twenty-one, or 64 per cent, have improved with respect to the lungs, while none have shown any perceptible increase of the nervous condition

The second embraces twenty eight cases exhibiting marked irritability of temperament with pronounced instability of nervous equilibrium Ten, or 36 per cent, have shown pulmonary improvement

The third includes twenty six cases showing varying degrees of depression and hypochondriasis Fourteen, or nearly 64 per cent, have *improved*

A considerable number of the two latter classes have suffered aggravation of the nervous disturbances in Colorado, as will be considered later, either temporarily or corresponding to a coincident loss in the tubercular disease, or from purely external and easily attributable reasons Three of each of these latter classes, however, are conspicuous examples of more or less continued exacerbation of the functional derangement from no well defined cause

These results are not incompatible with my general observations to the effect that in Colorado, as elsewhere, rather high degrees of irritability offer serious obstacles to a successful issue that even considerable restlessness and excitation of temperament under appropriate management yields fairly satisfactory results, and that pronounced depression, while the type of neurasthenia exerting the most unfavorable influence upon the course of pulmonary tuberculosis nevertheless responds appreciably to the climatic change

Insomnia and headaches were frequent special manifestations Twenty-two suffered to a considerable extent from insomnia Ten ultimately improved in this respect as well as in the lungs and general condition In nearly every instance the gain has been slow and interrupted by periods of vexatious exacerbations of the sleeplessness The majority of the remaining twelve showed no gain at any time, either in the lungs or the nervous disturbance I have regarded the continued insomnia as of decidedly unfavorable influence upon prognosis, not merely from the loss of *sleep and entailed exhaustion*, but somewhat as an expression of the more profound nervous irritability with a general susceptibility to all depressing or exciting influences Attention is called to the fact, although I am unable to give statistics, in this connection, that a very considerable number of pulmonary invalids obtain partial or complete relief in Colorado after having a more or less prolonged period of insomnia before arrival

Fifteen of my patients were afflicted with migrain Eleven have obtained relief, and have gained in other respects In none of these cases however, have the headaches disappeared entirely The degree of tubercular arrestment has been out of proportion to the neurotic improvement in this class The latter has followed but slowly and unsatisfactorily a gain in the general strength I have not sought, save in a few instances, to provide relief by attention to local causes

Twenty seven were victims of well defined hysteria Sixteen have shown pulmonary improvement, but remain subjects of the original neurosis, though some to a lesser degree on account of increased nutrition and suitable environment Eleven had done poorly in every way, in eight of whom, as previously stated, the pronounced hysteria was directly responsible for the unfortunate results

---

[2] Boston Medical and Surgical Journal Sept 16 1897

An inquiry as to the *time of development* of the disturbances is perhaps of some interest Of the 51 cases with hereditary influence the manifestation of the nervous condition was apparent in nearly every instance before the recognition of the tuberculosis, but was very frequently aggravated subsequently Of the 37 in whom no family history of neurotic taint could be discovered, 10 may be considered safely to have exhibited rather pronounced symptoms before the onset of the tuberculosis but which became more marked later, 12 only after the development, or coincidently with it, and 15 unknown Apparently the effect of the tuberculosis has been to render the preexisting nervous disturbance more pronounced, to increase the susceptibility to such influences in those already predisposed by inheritance, and to provide the appropriate conditions for the acquired development, i e, impaired nutrition, mental depression and auto-intoxication Likewise, the previous existence of well-marked functional nervous derangement can but afford added opportunities for the development of tuberculosis, from the lessened resistance of the individual, and hence the increased receptivity of the soil to the agent of infection Impaired general nutrition, while frequently a result, is also undoubtedly a potent factor in the causation of *each* diseased condition

With reference to climatic influence, it may be stated that in almost no case were the manifestations of nervous disorder displayed for the first time in Colorado Thirty-four cases suffered an aggravation in this State Of these, 9 were rendered worse only temporarily and later improved satisfactorily in this respect Twelve exhibited greater nervous disturbance coincidently with a corresponding loss of the tubercular condition, with increased impairment of strength and general nutrition Seven presented exacerbations to be referred solely to sufficient external causes capable of application anywhere, as excessive dissipation, extreme burden of business cares, and unfortunate domestic relations The remaining 6 became worse, from a neurologic point of view, in the absence of any apparent cause Of the entire number (34) rendered more nervous, either temporarily or permanently after arrival, 19 died as a result of the pulmonary infection or have grown worse The balance at the present time are showing varying degrees of improvement Nine of these have made a remarkable gain in all respects, despite decided nervous disturbances

Finally, of the 45 cases previously alluded to as having exhibited distinct pulmonary improvement, 39 showed an ultimate gain in the nervous disorder, and of the 63 cases showing no permanent loss, or doing well from the neurologic standpoint, 39 have improved with reference to the tuberculosis Thus the results are

	Cases
Improved in both conditions	39
Improved in tubercular but not in nervous condition	6
Improved in nervous but not in tubercular condition	24
No improvement in either	19

The reasonable interpretation of this would appear to be, that the influence of the climate upon the nervous condition had been particularly advantageous in a large proportion of the cases, presumably by virtue of the pulmonary improvement secured with the increased nutrition It is also evident that the climate has been not unfavorable, to say the least, for the considerable number who either showed an improvement or no change neurologically, notwithstanding a progressive loss in the tubercular disease These conclusions are of interest in view of the oft-repeated assertion that the co-existence of nervous manifestations contraindicates a recourse to the Colorado climate for the consumptive The statement of the alleged aggravation of the nervous condition with the resulting unfavorable influence upon the course of the pulmonary disease presupposes the hypothesis that improvement in the functional disturbance must precede arrestment of the tubercular infection, and at the same time advances the argument that the nervous derangement is of more essential consideration than the tuberculosis It has been my observation that the nervous disturbances have diminished almost invariably in proportion to the degree of arrestment and the gain in the general strength I am convinced that the majority of cases temporarily aggravated, or even developed early after arrival, are due in great measure to purely psychical influences, as enforced absence from family and friends, inability to immediate adaptation to strange surroundings, and previously accepted theories as to probable climatic effects Such cases usually respond favorably later to rational and appropriate management It should, however, be conceded, I think, that occasionally certain cases, especially those with strong inherent tendencies and severe manifestations, do poorly, particularly in the high altitudes of Colorado These cases have been comparatively few in my own experience

While the existence of pronounced nervous conditions in pulmonary tuberculosis constitutes a factor of grave prognostic moment in any location, it would seem that the climatic consideration of the tubercular infection per se should be regarded as of paramount importance I would also insist that the especial significance of functional nervous disturbance in pulmonary invalids, should be to add further emphasis to the necessity of strict personal attention to details of management, environment and mode of life

---

A FASCICLE OF CASES IN SUGGESTIVE (HYPNOTIC) THERAPEUTICS

Presented to the Section on Neurology and Medical Jurisprudence at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY H S DRAYTON, M D
NEW YORK CITY

The American medical world has shown itself easily affected, as a rule, by the current of events, medical and surgical, in Europe The experiments of Koch with tuberculin, of Klebs, Loeffler and Roux with antitoxin, and the various suggestions with reference to organic extracts—cerebral, testicular, thyroid, etc — that have crossed the Atlantic have received a ready attention, in some cases developing into a wave of enthusiasm, and have found practical recognition in employment by many of our progressive medical brethren I would refer merely to the disappointment that some have experienced in applying these more or less authoritative procedures, and remark *en passant*, that the wisest of us are subject to mistake occasionally through the very earnestness of our desire to wrest from old Mors one at least of his dreaded instrumentalities for human decimation

In view of the readiness of the American profession to entertain foreign advice in therapeutics it seems inconsistent with that quality of mind that one well accredited *modus* has not aroused interest enough to have it accorded a fair trial I refer to the hypnotic procedure, or what is otherwise termed suggestive therapeusis I am sure that all who listen to these remarks have learned something of hypnotism, and whatever the opinion they may entertain concerning it the fact is conspicuous that for several years this form or variety of psychologic medicine has had its hospital or dispensary establishments in Austria, Germany and France, and names of wide reputation, like those of Benedikt, Kraft-Ebing, Charcot, Delboef, Binet and Bernhein, are associated with it Some American physicians have ventured to treat patients in this manner, but it would appear that with a few exceptions they were merely experimenting, and too distrustful of results to make the method a real part of their professional equipment Some, too, I judge to be tender on the side of reputation, apprehensive that they might be regarded as giving sanction to "a superstition," as hypnotism was rather vaguely termed recently by the editor of one of our periodicals I can scarcely believe that any one here gives heed to the medieval nonsense that sensational and unscientific writers offer to the unlearned public under the title of hypnotism or mesmerism

Having given several years to the observation of the phenomena of suggestion I have come to the conclusion that the hypnotic state is consistent with the human physiology, and not to be regarded as determining a positive pathologic phase of either mind or body, although its induction may prove valuable as an aid in diagnosis, I have also reached the conclusion that in hypnotic suggestion we have at our hands an agency, the power of which is not fully realized, for the treatment of many forms of disease In this statement I merely confirm the utterance of many writers from the time of Braid and Esdaile to the present

I shall proceed to give some account of a few cases from my notes of those patients whose maladies commanded more than ordinary consideration Let me assume that those present are sufficiently familiar with the common methods of inducing hypnosis, although for my own part I can not say that I have any particular method One of my earliest experiences was recorded about nine years ago

Case 1 —Frank S , a young man 28 years old, came to me with a history of epileptic attacks dating back to his fifteenth year His physiognomy, the spare figure, angular hatchet face, dark, acne spotted skin, dull expression, jerky, irritable movements intimated the chronic epileptic As the attacks were frequent and often in series, he was incapacitated for remunerative employment Then, too, the sequelæ of a fit were becoming more severe and exhausting He had been under the treatment of several specialists Of one remedy he had taken $400 worth, according to his father with alternations of effect, but no decided improvement Hypnotism had been suggested to the family of Frank, and I was requested to try it, as a *dernier ressort* The young man consenting, a trial was made, and at the first interview sufficient control was obtained to warrant going on My object, it may be unnecessary to say, was to impress the mind of the patient with a strong sentiment of opposition to the attacks, to reinforce his will in this behalf, and also to exercise as much personal control as possible over such of his habits as needed correction He was a cigarette smoker, used strong coffee, and was prone to excess in eating, while in some respects his social doings needed amendment The hypnotic control enabled me to be quite thorough on this side of his life

The effects of this treatment exceeded my expectations In a month he began to improve The attacks occurred less frequently, and his health in every respect showed amendment After a time the treatment was given at irregular intervals two or three weeks being allowed to intervene between a sitting, and when the patient's last report was made to me he had had no recurrence of the fits for three months, and had undertaken the transaction of business that required travel and exposure, a venture that previously would have been regarded by his friends as entirely out of consideration In the course of my observation of this case there were developed certain phenomena that will, I think, be considered extraordinary, even if familiar with hypnotic cases When the patient first came under notice his attacks occurred without warning He would drop suddenly to the floor or ground as if struck by lightning, and on reviving a severe headache usually compelled him to rest a while, if not to sleep During my treatment if an attack occurred he would be likely to come out of it with little more than a sensation of dullness that soon wore off Twice the seizure occurred when I was within ready call, and then, to my surprise, I found that I could, in a few seconds, check the spasm and restore him to consciousness On one occasion he fell to the floor in the presence of several persons, and was struggling violently when I came to his side A sweep of my hands from the head to the knee suspended the convulsion and at my command he opened his eyes and rose to his feet, and within ten minutes was able to continue the business transaction he was engaged upon when he fell

Case 2 —Mrs E M of New Jersey, a woman of 50, of German parentage, vigorous and active, came to me with an account of prolonged attendance upon friends suffering from depressing fevers in spring time Her appetite had failed a distressing erythism had supervened rendering her unable to sleep or find repose in any direction Such medical treatment as she had tried had but increased her distress and restlessness, and further endurance of the condition she declared unbearable A strong, imperative nature, she seemed at first an unpromising subject for hypnosis, but yielded with comparative ease to the simple procedure of sitting in a comfortable chair and gazing steadily at the white knob of a door four feet or so distant A brief manipulation of the head deepened the sleep into which she fell in less than ten minutes Suggestions were made with reference to improvement of appetite, the recovery of nerve control and sleep Two days later a second treatment of a similar nature was given, the lady reporting great improvement in general feeling, having slept well and relished her meals This improvement was confirmed by the entire recovery of her usual vigor in the course of two weeks This case is not offered as of an uncommon type

Case 3 —Miss A , a lady of Boston, about 32, sent to me by her physician She had suffered with an obscure cerebral malady for sixteen years, tracing it to nervous shock occasioned by a carriage accident The focus of the disease lay in the situation of the right angular gyrus or anterior margin of the first occipital gyrus From that point pain, almost constant when not under the influence of anodynes, radiated to all points of the head, being most severe in the course of the right optic nerve and of the great longitudinal sinus A well educated lady, with remarkable self control, she described her symptoms with great clearness It is an interesting confirmation of the doctrine of localization that her sight, especially in the eye opposite the supposed lesion, had gradually become impaired until she could not read ordinary print or distinguish objects thirty feet away For relief of the pain, etc , she had visited specialists abroad and at home, and tried, she said, every kind of treatment—even to the late inventions of mental science and faith cure—and although at the suggestion of her last medical adviser she would now request me to try hypnotism she could feel little confidence in that At the fifth interview Miss A passed into the state of semi trance, which state was repeated at the four or five succeeding interviews The procedure in this case was simply to sit by the lady while she reclined upon a lounge, to hold her right hand in one of mine, occasionally to manipulate with great gentleness the forehead , meanwhile commanding her in a mild tone to go to sleep With this semi trance came entire relief from pain and abatement in the extreme sensitiveness of the scalp that had been an accompaniment of the malady Besides the suggestion of relief from the old head misery I advised the taking of small doses of gelseminum tincture and the application of hot water compresses to the painful parts The improvement in this case, as described by the mother and companion nurse of Miss A was marvelous After the third treatment she was able to ride out and endure with comparative comfort the noise and jars of the street A year later she called at my office and reported that she had had but an occasional memory of her old affection, and were it not for her defective vision would consider herself perfectly well

Case 4 —Rosa P , 33 years old of Russian birth, dark com plexion, strongly bilious in temperament, well developed muscularly and possessing the powers of endurance usual to her race The malady was peculiar in its effects, hystero spinal in origin, with centers of reflex in the lumbar and cervical plexus, it was exhibited chiefly by great tenderness and pain in the lumbar vertebræ and flexor contractures of both hands and of the cervical muscles The contractures of the hands, when she was brought to me were apparently permanent, any effort to open them resulting in an intense and painful paroxysm in which the clinch was greatly increased and the arms participating in the flexure The history of the case included ten years or more of hospital treatment and expert observation The first attack, it was said, had come on unexpectedly when the patient was a girl of 15 She found her hands disposed to close and could not account for it Belonging to an intelligent family, every available means were tried for her relief In Russia, Austria, Germany and England she had been under treatment by specialists, Professors Benedikt and Krafft-Ebing among them, a variety of procedures having been undertaken, with but temporary relief, if any Hypnotism had been employed, but only under repeated suggestions could the contractures be reduced for a brief space Owing to some influence that was unpleasant in the hypnosis that was commonly produced, it had become objectionable, and the woman at first declined to submit herself to my treatment However, after a brief interview she consented to a trial and passed easily into complete trance, and at command the hands slowly relaxed On coming out of the sleep, which was profound, and without any transference of consciousness from one state to the other, the hands remained open and flexible, and continued so, enabling the woman to assist in household duties, etc, for three days, when they closed Then she came again to me and was relieved of the contraction in the same manner This woman remained under my observation and treatment for upward of three months, when she went south to live with a married sister During this time her general health improved, the spinal myalia, which, when I first saw her, prevented but brief rest in any position besides that of sitting upright, also yielded gradually to the suggestive influence In a letter received fully two months after her departure from New York she stated that her hands had not closed, although she feared they might, because of her inability to apply to me for treatment I should state in this connection that I had little expectation of doing the patient any permanent benefit because of her unfortunate family environment and lack of necessary care A year later I saw her, she being brought to my office by her relatives, who wished to have her placed in some public or charitable institution Her physical state had become much worse, but the poor woman, with eyes swimming in tears, held up her hands to show me that they were still open and flexible

Case 5 —This case, of a widely differing nature, has a peculiar interest because of certain phenomena Mrs M, a strongly built, energetic brunette of 35 years, attending lectures at one of the medical schools of New York City, came to me in February, 1895 She recounted certain nervous experiences that interfered imperiously with the performance of anatomic studies She was totally unable to dissect On entering the room where cadaveric material lay she was seized with a strange nervous excitement that compelled her to withdraw immediately, and a distressing sickness followed, the effects of which usually lasted two or more days The origin of her neurosis she believed to be this Ten years or so before she came to New York, her father had died suddenly of apoplexy She was not at home at the time of his death, and on returning was not immediately informed of it, although she knew that he had been very ill Going into his room, she was surprised to find him lying silent and unresponsive While she stood at the bed side gazing in speechless anxiety at him, there burst from mouth and nose a stream of blood This unexpected spectacle terrified her so extremely that for weeks she was subject to hysteric fits and on the border of insanity For years afterward visions of that blood stained corpse and bed appeared in her sleep and in her waking hours A woman of more than ordinary strength of purpose, she had striven against the terrible memory, and believed, until she attempted to use the scalpel, that she had nearly overcome the Nemesis of her life She did not prove an easy subject for hypnosis, but at length entered the semi unconscious state—which, I may remark here, is claimed by some writers to be the true hypnotic condition as distinguished from the mesmeric or magnetic trance As it might be, however, the suggestions for mental calm and self assurance in the performance of anatomic work and other duty were given, and a half dozen sittings of the kind were given In the course of six weeks Mrs M advanced in the degree of self control until she, as testified by one of her classmates, could handle the instruments of dissection with coolness and facility During the winter of 1895 96 this patient reported to me at times, and to the effect that in pursuing her second year of study she had no trouble whatever, and that her recovery from the mental dread and solicitude of years was practically assured

Case 6 —Mr C A, about 34 years old, by profession a lawyer, of excellent family The history of the case is imperfect, and it is not necessary to dwell on what may appear to be very probable factors of etiology Dr F, who introduced the patient, desired to test the power of suggestion upon a mind confessedly under the influence of a delusion of fear that had continued for some years, and was becoming more accentuated The patient, a clear headed and rational man on other subjects, entertained a profound dread of being alone, would not venture to go from one room to another in his father's house without company, and it was only with great difficulty that he could be persuaded to go out of doors for a few minutes When brought to my office he was in a state of excitement, with high pulse and pallid face After some minutes of desultory chat, during which his nerves recovered a state of comparative calmness, I requested Mr A to sit in an easy chair and to gaze as steadily as possible at the lens of a lamp used for laryngoscopic examinations, five or six feet distant, meanwhile I sat by his side holding his left hand in my right, one finger pressing upon the radial artery At the beginning of the experiment his pulse ran quickly up to 120, and then gradually fell to 80, as nearly as I could estimate without consulting a watch After sitting quietly in the attitude directed, I advised him to relax nerve and muscle as much as possible, giving himself up to a sense of ease and comfort I gently stroked head and forehead, now and then repeating the admonition to be calm and comfortable This was the nature of the first interview At the next interview A exhibited less excitement on entering my office, and a similar procedure was adopted as in the first, suggestions being added relative to the correction of his delusion Repeated assurances were given of better self control, more steadiness of will, less attention to surroundings, more courage, spirit, independence, self possession, etc This line of suggestive treatment was continued at succeeding interviews until the fourth, when I commanded him to leave his residence at a certain hour in the afternoon, and walk unattended around the block This was done, and the circumstance related to me by A with considerable satisfaction A few days later he came to my office without attendance In the meanwhile he had gone with a friend to visit the Hagenbach collection of trained animals, an excursion of two or three miles from his home The spell under which he had suffered appeared to be broken, for after two more interviews I was informed by his old physician that an extensive tour in Europe had been arranged on which he (the Doctor) was to accompany Mr A, and that my fee for services rendered would be honored on sight Since that time there have been no intimations of a return of the trouble, and Mr A is not the candidate for early confinement in an asylum that he had been considered only a few weeks before I first saw him

---

REPORT OF A CASE OF RAYNAUD'S DISEASE WITH PATHOLOGIC FINDINGS

Presented to the Section on Neurology and Medical Jurisprudence at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo, June 7 10 1898

BY C EUGENE RIGGS, A M, M D
ST PAUL

HISTORY

Mrs M, age 64, weight 195 pounds, American, housewife Had typhoid fever at age of 19 pneumonia at 53, measles, whooping cough, diphtheria, acute articular rheumatism at 50 years Father died at the age of 76 Mother died at age of 71 of cancer of the breast Has two sisters living, in average health, and one brother, whereabouts and condition not known Two years before, the patient had noticed a peculiar numbness of sometimes one finger sometimes another of the left hand, which would last about half an hour This continued at intervals for over a year During this period the attacks of numbness came on about once a week, sometimes two mornings consecutively She was, however, apparently well, when on the evening of Feb 6 1896, while going upstairs she was suddenly attacked with extreme numbness of the left hand and forearm, with a complete paralysis of motion and sensation in the same She immediately went downstairs, when she found her hand as white as marble, friction giving her considerable pain The hand remained white all night, and pain prevented sleep Next morning the patient noticed the end of the thumb beginning to turn dark, and later other finger tips The severe pain continued when not controlled by morphin, up to the date of admission to the City and County Hospital, Feb 9, 1896

On admission, it was noticed that the reddening was excessive, pulse 80 and somewhat irregular and intermittent, temperature 98 4 Finger tips of left hand were black, with exception of little finger, which was darker than normal A dark streak extended up the dorsum of the hand between the thumb and forefinger to within three-fourths of an inch of the carpometacarpal articulation There was loss of sensation and motion in the left hand, extending on the palmar surface to the metacarpo-phalangeal articulation, also loss of the sense of heat and cold over the same area The arm was cold to junction of middle and upper third of humerus, veins of forearm and hand were very perceptible, giving the arm a peculiar marble like appearance, the ends of the fingers of the left hand markedly shriveled on palmar surface

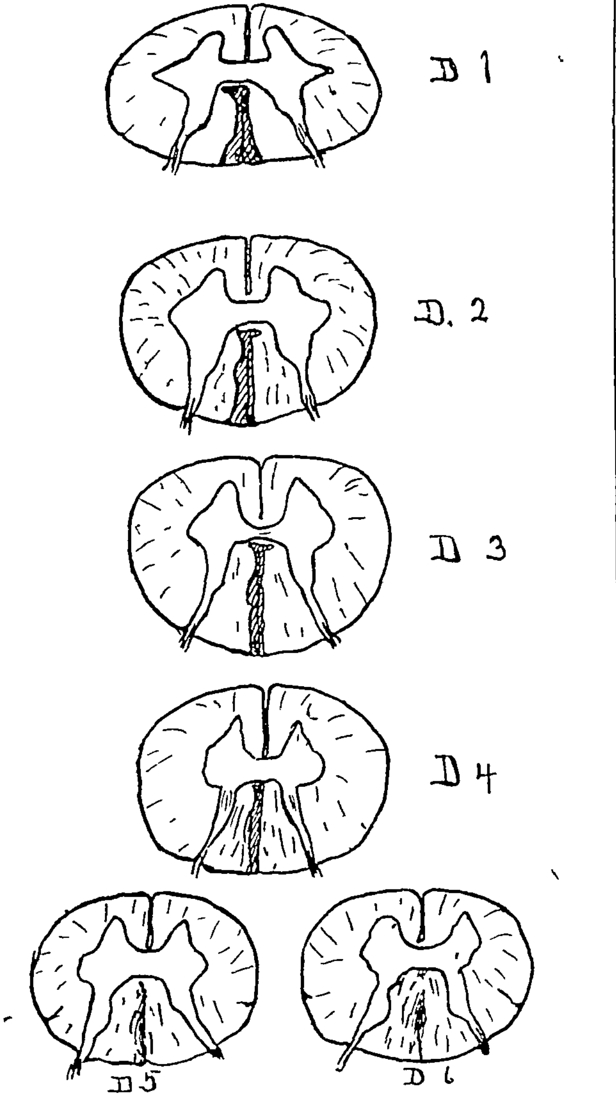
At 11 P M , February 10, on attempting to get up, she suddenly fell back in bed in an unconscious condition The face became extremely dark, all respiration ceased, the pulse imperceptible except in carotids, where it could be barely felt On ausculation, the heart could be only faintly heard On the morning of February 11 two red areas appeared on the outer side of both thighs, which rapidly extended down the limb reaching the knee about 8 A M , at which time a dark red spot was noticed on the heel of each foot, also along the external surface of the foot At 8 45 the four outer toes began to turn purple and the outer aspect of the legs from knees down rapidly turned dark The inner and anterior surface of the foot and leg was of a peculiar white color with markedly white veins coursing through the whole area Patient complained of a very severe burning pain in the foot, the legs were cold to the knees Apparent loss of motion and sensation in the limbs and feet Patient was somewhat delirious and exceedingly restless Tips of all the fingers of the right hand were of a dark purple color, but there was no paralysis of motion present in this member In the right hand there was no development of the marble like appearance preceding the reddened condition

At the time of death local syncope had extended up the anterior surface of the left arm to the shoulder and the red color had extended up the dorsum of the arm, also in the axillary region down to base of ribs The same condition existed in the right axillary region Both legs were found to be perfectly rigid at 1 P M , the flexors of the feet predominating Marbled appearance of anterior surface of both limbs present after death, extending to about three inches above the knee The brighter red condition on the inner side of the thighs changed shortly before death to a much darker hue The right remained about the same as at 1 P M (Some edema of the lungs noted before death) The slightly darkened spot which was noted on the left ear appeared perfectly normal after death, which was not the case with other portions of the body affected Examination of the urine showed tube casts and albumin

AUTOPSY

Body very fat (weighing probably 200 pounds) rigor mortis well marked, postmortem lividity slightly marked over the back and under surface of the body The thumb and all fingers of the left hand were black and gangrenous the two distal phalanges being involved On opening the calvarium the membranes of the brain were normal, except the pia mater which was slightly edematous The hemispheres of the brain were symmetric and of normal firmness The vessels at the base of the brain showed the walls very slightly thickened, but no evidence of atheroma nor deposit of lime salts On opening the thorax the pleural cavities were found free from adhesions the lungs showed slight emphysema along the anterior borders, otherwise they presented no pathologic changes The pericardium contained a small amount of clear straw-colored fluid The heart was large and its walls infiltrated with fat On section, a large post mortem clot was found in the right ventricle entangled in the tendons of the tricuspid valve The cavity of the right ventricle was somewhat dilated The left ventricle contained some liquid dark blood, its chamber was markedly dilated and the walls near the apex very thin (about one-fourth of an inch), and consisted of fat and degenerated muscle The mitral orifice was stenosed, admitting only the point of a finger This was due to old inflammatory thickening, with deposit of lime salts in the anterior leaflet, and slight thickening of the posterior leaflet of the mitral valve The left auricle was markedly dilated The muscle wall of the heart was soft and flabby and showed marked evidence of fatty infiltration with fatty metamorphosis of its walls, best shown near the attachment of the papillary muscle and in the ventricular septum The blood vessels of the heart were free from atheroma The aortic valves showed no pathologic changes The wall of the aorta was smooth

Abdomen —The layer of fat of the abdominal wall was enormously thick—2½ inches in places An old irreducible omental hernia was found at the umbilicus, which was retained in place by peritoneal adhesion The opening through which this protruded was about an inch in diameter, the intestines, especially the colon, were markedly distended and the mesentery and omentum were infiltrated with fat The left kidney was slightly enlarged, its cortex narrow and the pelvis filled with fat The capsule stripped easily, leaving the surface smooth The vessels on the surface were much injected, contrasting markedly with the pale parenchyma of the organ, which showed marked evidence of nephritis The right kidney was smaller than normal, due largely to narrowing of its cortex The capsule stripped with difficulty, tearing with it portions of kidney, leaving a roughened surface The cortex was very narrow and its surface uneven, showing here and there puckered areas and a few cysts The spleen was somewhat enlarged (almost twice its normal size) soft and pulpy and on section very dark The liver was soft and flabby, slightly smaller than normal and its surface yellowish gray On section there was visible slight fatty infiltration, and bile stained areas and dark liquid blood exuded from the severed hepatic vessels The gall-bladder contained one large irregular cylindrical shaped calculus about one and one fourth inches in length and three fourths of an inch in diameter, [illegible] [illegible] small [illegible] granular calculi were [illegible] [illegible] unusual. The pancreas were slightly smaller than normal and presented a narrowing near the middle. The head of the pancreas, on section, was darker than normal, but of the usual consistence. The uterus contained a small calcified sub-peritoneal fibroid tumor over the right cornua. The spinal cord was removed, also the median nerve of the left arm from the bend of the elbow to the hand. The radial artery of the left hand contained dark coagulated blood from a point extending about two inches above the annular ligament. The vessel wall was not atheromatous, and no thrombus was discernible. A noticeable feature of the case was the very dark liquid character of the blood all through the body.

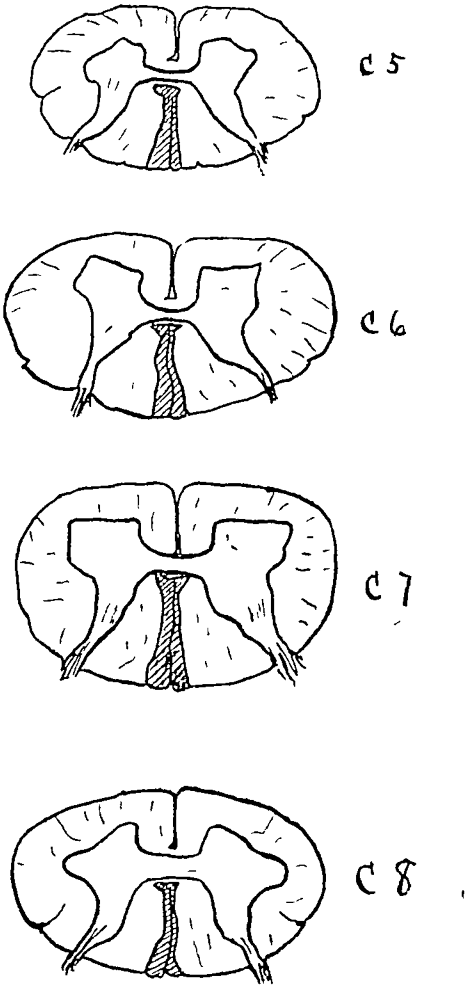


Area of degeneration in Case 9.—Raynaud's Disease. Rigg's Path. Lab.

MICROSCOPIC FINDINGS

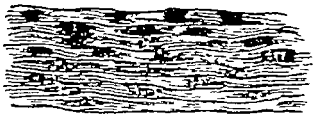
The brain, medulla, segments, C 5 to D 10 of the spinal cord and portions of the median nerve and the anterior cerebral artery were received in the laboratory Feb. 11, 1896. The brain and medulla were injected with carmine starch solution and placed in formaldehyde sodium-zinc-chlorid solution. The cord and median nerve were placed in Muller' fluid. After three months the hardening of the cord and nerve was completed in alcohol, followed by embedding in celloidin, cutting and staining by Weigert's and Weigert-Pal methods. The brain and medulla were kept one year in formaldehyde, etc., solution, when the medulla was embedded and cut in the same manner as the cord, the sections placed in Müller for a week and then stained by Weigert's method. Of the brain only a portion of the anterior cerebral artery was examined microscopically, after staining in paracarmine. The following are the findings.

Median nerve.—Transverse sections showed many unstained and unparently shrunken fibers irregularly scattered through all the bundles. Longitudinal sections showed almost all the fibers unstained and shrunken in irregular located segments, throughout the entire course of the several portions examined there appeared to be a simple parenchymatous degeneration. The proportion of degenerated to normal tissue appeared to be about three to two. Many rather large capillary hemorrhages were observed in the sections.



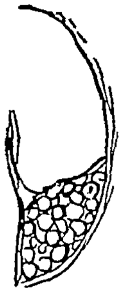
Area of degeneration in Case 9.—Raynaud's Disease. Rigg's Path. Lab.

Spinal cord.—Numerous transverse sections from segments C 5 to D 10 inclusive were examined. All segments from the tenth and seventh dorsal inclusive appeared to be perfectly normal, except for slight capillary hemorrhages scattered through the posterior median columns. Throughout all the other segments examined, from the sixth dorsal to the fifth cervical inclusive, the posterior median columns showed degeneration and numerous capillary hemorrhages. This degeneration first very faintly marked in the middle of the mesial margin of the left posterior median of the sixth dorsal segment column and gradually widening until in the seventh cervical the entire column area on both sides was involved, was throughout most complete on the left side and in the crescentric area near the gray commissure The latter area seemed also to be the seat of the most numerous capillary hemorrhages



Long section Median Nerve

Medulla —The lower half of the medulla, or at least all portions below the restiform bodies, had unfortunately been destroyed in the process of removal Numerous sections taken from various levels alone failed to show any abnormalities whatever



Cross section Median Nerve

Anterior cerebral artery —Sections from various portions of this artery showed only a very slight thickening of its external coat

SUMMARY

It will be seen that this case had a typic beginning—local syncope, accompanied by much pain and associated with local asphyxia in the same limb The typic venous marblings were present in both extremities and were very pronounced The gangrene was of the mummy like order, coming on without blisters, and the characteristic conical finger points with their shrunken and shriveled skin were most conspicuous The local asphyxia of the left ear was well marked We find also asphyxia developed in the right hand without accompanying or preceding local syncope Death ensued before the latter development of the disease could appear

The course of this case was however markedly different from the clinical description outlined by Grasset He recognizes three periods that of invasion, lasting from a few days to a month, that of development, with the accompanying pains and the commencement of gangrene, and that of elimination of eschars, extending over a period varying from ten days to ten months, the mean duration being from three to four months

Cold, traumatism, renal and cardiac disease, atheroma, malarial and local poisoning, diphtheria, grippe, gout, organic and functional disease of the nervous system are so often associated with Raynaud's disease that they assume an etiologic value At times, however, no apparent cause can be found, in which case the affection may be termed idiopathic The theory generally accepted today as to the pathology of the disease is that held by Raynaud himself, viz, that there is a contraction of the small arteries, a tetanic spasm of nervous origin of the great sympathetic He believes in a central origin because of the symmetry of the alterations

In the above case the postmortem would point to a renal and cardiac complication, though the marked cord lesion must not be overlooked, as a possible etiologic factor Had this last any relation to the symptoms? From its character it must have antedated the onset of the acute symptoms, though not those first observed by the patient herself The bilateral areas involved most were not those through which most fibers from the upper extremities pass, but those of the lower extremities, which were latest affected The left column was more affected than the right and the symptoms were much more pronounced on the left than on the right side The degeneration of the left median nerve was probably due to the condition of the left hand

This case was referred to me by Dr J B Brimhall of St Paul

THE STRESS OF MODERN CIVILIZATION AS A FACTOR IN THE CAUSATION OF INSANITY

Presented to the Section on Neurology and Medical Jurisprudence at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY FREDERIC S THOMAS, M D ,

PROFESSOR MENTAL DISEASES CREIGHTON MEDICAL COLLEGE OMAHA
COUNCIL BLUFFS IOWA

In presenting a few thoughts upon this subject, I desire not to be exhaustive, but to present points merely for your consideration The author does not claim the stress of modern civilization to be an exclusive factor in the causation of insanity, yet one which should not be dismissed without consideration He believes that it is the most intimately associated with the formative period of life, that it is a causative factor in the development of neurotic temperaments Instead of modern culture making the masses more resistive and better qualified for life s battle, in many instances, by reason of over-stimulation and faulty cerebral development, it tends to weaken the inhibitory qualities of the brain

We are told that man in uncivilized life has but one source of pleasure, viz The gratification of his animal desires and passions In his ultra civilized state, however, we find him possessed of another and higher condition—"a psychical existence—an intellectual life" This changed condition, the result of an irresistible evolutionary process, has transferred him from the field of ethnology to the domain of psychology

A comparative study of mental alienation of both the uncivilized and the highly civilized races shows an unusually high per cent of insanity in the latter Omitting from our consideration epilepsy, trauma and their results, little or no insanity is observed among the unenlightened races The higher the scale of intelligence and the more exacting the demands upon a people, the more likelihood there is apparently of brain disease

That civilization, and especially our modern civilization, should be a factor in its causation, though humiliating to admit, seems nevertheless to be true Civilization itself is a departure from man s primitive condition It is a development which gives to him a sort of dual existence and establishes within him an artificial standard It has made new and extensive demands upon his energies it has taken nutritive fluids out of their former and accustomed channels that the brain might be supplied with the best vitalizing fluids of the body

Anatomically we know the brain is made up entirely of cells, fibers and ground substances, with the necessary framework of connective tissue, blood-vessels etc If the processes going on in this structure be limited to its capacity, no harm is expected If, however, the brain be subjected to the stresses of modern civilized life, a possible over-stimulation and consequent injury may result therefrom Studying our subject from a histologic standpoint we find that the nerve cell belongs to the highest order of animal life aggregation It possesses specialized nerve function and becomes a necessity in maintaining a proper relation between the infinite number of protoplasmic elements which compose the living animal

We find that a mental process is the product of cell metabolism resulting from stimulation The nerve fibers or processes from the nerve-cells, when bunched together in the great centers, must be insulated There must also be communication between the cells of different and similar function, that the animal as a whole, may fulfill its highest mission We know that the muscle cell, without its individual metabolism, would be useless, even though stimulated by an intact nerve cell The same can be said of a brain-cell We know, in either case, perfect nutrition is essential The latter being the most highly organized, would suffer the most from nutritive disturbances

The immature elements of most recent development and highest in the scale reflect very early the disastrous effect of excessive or diminished nutrition Considering the relatively large size of the cerebrospinal system of a child at birth, the immaturity of its elements, and, in conjunction with this, the rapidity of growth in the first five years of life—from about eleven ounces at birth to forty ounces in the sixth year—we need not search further than environment for a possible production of early neuroses Trivial causes produce profound impressions Instability of the peripheral nerves, instability of the centers, lack of inhibition in the motor ganglion cells, accompany pid development, diminished resistance and early ustion from undue stimulation If this be true, not the stress of modern civilization act most perciously during the formative period of a human ing's existence, by reason of undue stimulation, and from this reason will it not so weaken the nerve centers that the neuroses of childhood can but give place to mental enfeeblement or destruction in the adult?

"The prevailing tendency of modern civilized life is to over stimulation of children The tendency pervades our whole educational system It permeates juvenile literature, it is manifest in childish recreations and has invaded the home Such overstraining and stimulation of the nervous organism can not fail to cause harmful effects during childhood, and frequently produces neurasthenic and nervous temperaments in later life " The five senses were given to us by our Creator that the brain might take cognizance of His created energies That we might approach nearest to His divine attributes, especially His omnipotence, the human brain was made of material most sensitive Not that it could receive and record only the images about it by the aid of the reflected rays from the sun, or to analyze the sound waves, but also to receive and understand that which came to it through taste, smell and touch In our environment of modern civilized life, the delicate structures of the ear and brain, which were so constructed as to recognize the tone, pitch and harmony of sound, are being shocked by the discordant screams of the locomotive, the noise of the street car with its clanging bells, the rumbling of the heavy wagons upon our stony pavements, the monotonous cry of the newsboys, the auctioneer or the fruit vender upon our street corners By reason of all this, the beautiful and refreshing sleep of childhood is disturbed and the growing brain, which demands so much repose during this period of life, has been made to suffer therefrom

The human eye, even more delicate in construction than any other organ in the body no longer has reflected upon its retinal expanse the beauty of field and flower, the rolling landscape, the crystal streams with their green verdured banks, or the blue, starry vault above us, but is made to witness the revolting scenes of men maddened by their scramble for gold, or begrimed by the heat of toil in the busy marts of trade The delicate olfactory cells which gather strength and delight from the pure air of the country, laden with the aroma of growing flowers and ripening grain, which gladden the heart of childhood, are dulled and blighted by the smoke and stench of our cities Instead of this maddening whirl and strife of modern civilized life, could the eyes of childhood but be limited to see nature in her pristine beauty, the ears hear only the sweet carol of birds and the melody in the rustling leaves of the forest trees, then the sweet lullaby songs of mother would never cease to ripple harmoniously in the chambers of memory If these things could hold a place in our modern civilized life, no one would dare say that the stress of modern civilization was a factor in the causation of insanity

---

UTERINE HYPERESTHESIA

Presented to the Section on Neurology and Medical Jurisprudence at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo , June 7-10 1898

BY EPHRAIM CUTTER, M D

NEW YORK CITY

Included in this are uterismus, vaginismus, esophagismus, caputismus, pedismus, spinismus, crinismus and all pains that are reflex from the uterus, either touchal or experienced subjectively alone To show that such cases are common, permit the following illustration

Mrs A complained of swelling and pain in both ankles, called rheumatism but there was no morphology of rheumatic blood Intra uterismus was found and treated with iodoform vectors It was cured and also the ankle joint troubles

Miss B had vaginismus so that she had to be etherized for an examination, which revealed an anteflexed and anteverted uterus After the use of iodoform vaginal capsules the vaginismus was cured and afterward the uterine lesions of place were relieved by mechanical means

Miss C , aged 30, could not swallow solid food Bougies showed that there was no organic stricture of the gullet Careful exploration revealed a verted and flexed uterus, relief of which was followed by the alleviation of the painful esophageal spasmodic actions

Mrs G , one of the best and bravest patients, was ill with a hyperesthetic swelling of the back of the left hand I touched it gently "Oh, doctor," screamed she, "don't touch my hand I would rather you would knock me down " Rheumatism was looked for but its blood morphology was absent I said that the womb must be at fault She disputed it But it was found to be hyperesthetic and retroverted When these were relieved the hand got well

Many women have complained of inability to wear shoes and walk, because their feet were so sore, and yet there would be nothing abnormal about the feet But when their uterine hyperesthesia and lesions of place were relieved the feet were also

A woman married and the marital functions were disturbed by her screams of agony and by her collapse, so that every time connection was tried the family physician would have to be summoned On one occasion—not marital—this physician gently touched her spine in examination and she fainted This case was seen in consultation Further history not known

Calling on one of my uterine cases once, I was met with the exclamation, "Oh doctor, please excuse the disorder of my hair, as I can not bear the touch of comb or brush to my head

Mrs G , above alluded to, sometimes had hyperesthesia of the whole body, so that at night she could not bear the weight of bed and night clothes and was obliged to be nude

What is pain, which is the main element of hyperesthesia? It is something invisible, imponderable, subjective, felt It needs the medium of nerves which, fully paralyzed, abolish pain, as in etheric anesthesia After many years' study the writer is inclined to take the ground that pain comes from a partial paralysis of the nerves Smite with a birch switch and you inflict pain, but with a crowbar you can smite without pain because you kill the person smitten or completely paralyze the nerves near to or remote from the injury It has seemed as though the uterine hyperesthesias unexplained by organic changes, arose because its stock of nerve force, dynamis or constitutional energy had been so exhausted by the lesions of function or place that the uterine nervous system was partially paralyzed and squealed in pain when it acted Also that it steals from other parts of the body, whose nerves thus robbed of their share of dynamis squeal also It is reasonable to expect that its relief must come by restoring to each autonomic organ its normal amount of nerve force by abolishing, if possible, the physical conditions of its cause

As an inventor of pessaries, I have had to contend with uterine hyperesthesia as the greatest bane to their use Hence what is said here is the outcome of a fight with conditions that have baffled gynecologists for ages It is useless to use a pessary or, if you will allow the personality, the Cutter pessaries, unless the hyperesthesias are removed There are exceptions but they are few I beg, entreat, implore and beseech that this should never be forgotten If so, we shall hear less of the hard things said against the use of pessaries It is a pity that these instruments should suffer because of the disobedience to this rule—a pity, as otherwise more patients would be cured and less opprobia cast on the profession, which it really does not deserve

I try to utter these monitural words with truth and soberness There is a conventional disregard of uterine hyperesthesia Lately I saw a report where a gynecologist examined and treated the females in a large insane asylum and found two-thirds suffering with hyperesthesia and uterine disease Systemic works glide over this subject If I am mistaken I shall be glad to be corrected

A physician told me once that he had never dared use a uterine sound It would be but guess work to diagnose internal hyperesthesia without it I think the Simpson sound too big I like a rigid steel sound, platinum plated, the size of a No 1 vesical sound From what I hear I judge that uterine hyperesthesia is ignored as subjective, as a whim and as unworthy of attention

As a rule, women bear pain well Prof H L Hodge of Philadelphia used to say in his clinics, 'When a woman complains, in ninety nine cases out of a hundred she has a good reason for it If you are not smart enough to find out what is the matter with her say so, and never blame her as a malingerer

Through patients I have heard of women doctors who used a cold and unanointed speculum in hyperesthetic virgin vaginas This shows that woman's inhumanity to woman exceeds that of man to woman I have been called rough by male physicians but I never had a lady patient say so Hence I invoke women practitioners to be specially on the watch for 'uterine hyperesthesia, and never to undertake to use a pessary without first having removed the hyperesthesia, if present

The 'irritation of Professor Hodge I call hyperesthesia He taught its existence as a neurosis without any appreciable organic lesion But the writer is of the opinion that it exists along with organic lesions which lesions are curable without the knife in some cases I have had extra uterine fibroids contemporaneous with mammary gland fibromas and hyperesthesia, that have been diagnosed as cancer, and yet they have been removed by diet and the principles here laid down, after the irritation of Hodge had been removed

The metabolic changes in health are not confined to normal tissues and organs, but they are applicable and are going on in unhealthy organs or tissues If healthy organs or tissues can be hyperesthetic it is more likely that unhealthy organs or tissues will be because they have less vitality To illustrate on Dec 13, 1896, I was poisoned at an autopsy on the proximal end of the first phalanx of my left little finger Today there is a dermal tuberculosis whitish, leprous red with flattened hard elevations pitted at the top[1] If anything, the diseased is more hyperesthetic than the sound skin, as unconscious touchings which are unnoticed by the sound skin are hyperesthetic In fact, galvano caustic hurts more than on the sound skin Do not then let the terms "irritation" and 'hyperesthesia" be buried in Prof Hodges grave and mine own

Debts of gratitude are due to McDowell, Atlee, Kimball, Sims, Thomas and other surgeons, for opening new fields of gynic diagnosis which to Professor Hodge were unknown, but the knife is not everything Nor do women exist for laparotomy sections alone The knife should be used in cases of hyperesthesia as a last resort For example, a lady said that a distinguished surgeon (whom I love) decided that she needed an immediate laparotomy of an ovarian cyst seated where she had hyperesthesia Had he made a vaginal examination he would have found a case in question Under the principles laid down here and diet, the ovarian and uterine hyperesthesia have disappeared

A good test is the laying on of hands, practised, I am told, some 2600 years B C , and now in Germany Place the patient in supine posture Put the right forefinger on the hyperesthetic uterus and the left palm over the hyperesthetic ovary The dynamis thus conferred removed the pain in the last case in a few minutes I should add that I have not been able to detect the cyst In 1873 I learned from patients rubbing my well knee that the pain in my broken knee was relieved, when otherwise it had its own way

Iodoform vaginal gelatine capsules have been found very useful I have used them since 1862 Though it works most admirably, the bad odor of iodoform is its greatest objection otherwise I place it at the very head of all medicines opium not excepted Aristol comes next to iodoform and is used the same way It is a wonderful medicine It ought to be a household remedy for cuts and burns I tried it last summer When rolling, at our seaside cottage, after most had left, a barrel on to a piazza, my hand slipped and a *rusty nail projecting from the supporting* board penetrated the fascia of the palmar surface of my right wrist It burnt It bled Immediately the whole hand was in hyperesthetic agony Aristol powder was laid on, then absorbent cotton and a bandage Shortly the pain subsided Without suppuration, the wound healed kindly in a few days The scar remained some time longer and now is gone I can not help thinking that if uterismus is relieved as my manismus was, it is easy to see why women express their feelings of relief during its application I think this bit of experience not out of place here as showing the power of aristol to relieve intra uterine hyperesthesias To make the vectors, mix aristol into pill mass with molasses which is a little thick, cut into proper size, apply mass to pin headed wires three inches long that screw into a wire handle like a uterine sound, mould into cylinders with a spatula on a glass plate Iodoform is used in the same way Once one application of an iodoform vector to a $3\frac{1}{2}$-inch hyperesthetic uterine cavity in one month's time was followed by a reduction to normal size In this case the wife of a foreign ambassador at Washington was enabled to resume her diplomatic receptions, at which previously she had fallen insensible on the floor Amitol is a new substitute for iodoform which I have found quite useful Its whiteness, cheapness and odorlessness are recommendations Gelatine vaginal capsules have long served a good purpose It should be remembered that the meaning of our subject is a loss of nerve force Restore this and sustain nature s biologic efforts is the way to cure Those illustrative cases could be given, but as the injunction is to "write short papers,' this must suffice

---

[1] Nov 2, 1898 cured

120 Broadway

THE SURGERY OF CAMP WIKOFF

BY N SENN LIEUT COL U S V

CHIEF OF THE OPERATING STAFF WITH THE ARMY IN THE FIELD

(Concluded from page 1355)

ERYSIPELOID

Erysipeloid, an acute inflammatory affection of the skin, described by J Rosenbach, is a disease of the skin not often recognized It is usually mistaken for erysipelas The parasite was described by Rosenbach more than ten years ago, but it has never been classified Attempts to cultivate it have failed so far This disease is met with usually among persons engaged in the handling of fish and meat, that is, cooks and butchers It is attended by very slight constitutional disturbances and its local progression is slow as compared with erysipelas The starting point is generally a finger, where infection takes place through slight surface defects or a puncture It consists, pathologically speaking, of a subacute inflammation of the lymphatic channels of the skin The affected skin presents a bluish color instead of the bright red seen in erysipelas Another and perhaps more important characteristic sign in the differentiation between erysipeloid and erysipelas is the appearance of the margin of the inflamed area In erysipeloid the shading from diseased into healthy skin is gradual, the line straight in erysipelas abrupt and the margin presents well marked fan shaped projections instead of a straight line The thickening of the skin by infiltration in erpsipeloid is slight and the only thing the patient complains of is a sensation of burning or smarting The disease travels in the direction and against the lymph current, so that when the point of infection is some distance from the tip of the finger, this is reached in time by extension of the inflammation downward from the point of infection The disease travels slowly, it usually takes a week or more before the inflammation reaches the base of the finger when infection takes place anywhere near its tip The lymphangitis seldom if ever extends beyond the elbow joint The infection may extend from one finger to another when the inflammation travels in a distal direction The skin soon returns to its normal condition behind the zone of infection A case of this kind came to the surgical ward for treatment

Case 11 —Patrick J M McGeoch, age 24, kitchen employe, presented himself September 9, complaining of a burning, smarting pain in the right index finger, which commenced four days ago Over the radial side of the affected finger, opposite the middle joint, is a small abrasion covered by a thin adherent crust The skin half as far as the tip of the finger and an inch above this point is slightly swollen and presents a bluish red color The discoloration is most marked on the dorsal side At the proximal margin of the zone of inflammation the diseased gradually shades into the healthy skin, both in regard to color and swelling Patient is able to follow his occupation The case presents all the characteristic signs of Rosenbach's erysipeloid An alcohol compress with oiled silk over it was applied In three days the inflammation had extended to the base of the finger while the distal portion, the seat of the disease when the patient first came under observation, presented a normal appearance, the skin being somewhat shrivelled by the action of the alcohol application

AFFECTIONS OF THE RECTUM, ANUS AND ADJACENT TISSUES

Rectal affections in some form were very common among the returning troops from Cuba It is fair to presume that some of the soldiers were the subjects of a mild form of hemorrhoids when they entered the service, but it is equally certain that none of them were affected with fistula or abscess To show the disproportion of rectal disease between the recruits who applied for enlistment and the soldiers returning from the field, I will state that of 10,000 applicants examined in Camp Tanner last spring the following rectal affections were noted Hemorrhoids, internal, 2, external, 219, inflamed, 1, fistula, 1, prolapsus, 2 I attribute the prevalence of rectal diseases among our patients in this camp to the following causes 1, intestinal affections contracted in the camps and Cuba, 2, improper food, 3, the relaxing effect of a tropical climate 4 frequent exposure Few of our soldiers escaped diarrhea or dysentery The irritation of the rectal mucous membrane could not fail in many instances to produce a catarrhal proctitis The inflamed mucous membrane became permeable to the passage of pathogenic microbes, which so constantly infest even the healthy rectum The loose pararectal connective tissue, under the influence of general causes, became more susceptible to infection, it is therefore not astonishing that we should have found so many cases of perianal, perirectal and ischiorectal abscesses and their consequences, fistulæ Inflammatory affections of the rectum play also an important etiologic rôle in the development of hemorrhoids We found in a number of cases a direct connection between an antecedent rectal inflammatory affection and the subsequent appearance of hemorrhoids The intense tenesmus which attends catarrhal proctitis and dysentery causes muscular changes and lesions of the mucous membrane which often become the principal cause of pararectal inflammation and hemorrhoids

PARARECTAL ABSCESS

Under this head I will report all cases of suppurative inflammation in the vicinity of the anus and outside of the rectal wall that have been operated on in Camp Wikoff In all cases the suppurative inflammation pursued a very rapid course, The pain, as a rule, was intense, and fluctuation could be felt distinctly in the course of four or five days In high seated paraproctitis the general symptoms were usually severe, a high temperature and a rapid bounding pulse It was in these cases that the affection assumed the most progressive form The abscess contents were always fetid, otherwise presented the usual appearance of pus as found in acute abscesses in other localities

Case 42 —Robert F Stanley, age 22, Troop G, Ninth Cavalry, colored Perianal and ischio rectal abscess While in Cuba had diarrhea for eighteen days—August 27 to September 1—had chills and fever Reached Camp Wikoff September 3, on which day he had pain about the rectum before and during defecation and on sitting down He was admitted to surgical ward September 8 By careful palpation a small area of circumscribed induration as large as a pea could be felt on the right side of the sphincter muscle and about one third of an inch from the surface This swelling could not be detected from the rectum Pain was greatly increased under pressure A small incision was made and about half a dram of pus escaped The little cavity was washed out with peroxid of hydrogen and carbolized water and loosely packed with a strip of iodoform gauze As an external dressing a hot moist antiseptic compress was used and held in place by a T bandage Immediate and almost complete relief followed the operation On the ninth, the temperature rose to 100 degrees F , on the tenth to 101 The pain was intense and referred to the opposite side of the rectum September 10, a fluctuating swelling could be felt from the perineum and the rectum The abscess bulged externally as well as on the rectal side The patient was again anesthetized and the abscess incised through the perineum to the left of the median line A large quantity of extremely fetid pus escaped As the undermining was extensive two counter openings were made one below and one above the first opening Two fenestrated rubber tubes were employed in draining the large cavity The abscess was washed out with carbolized solution and peroxid of hydrogen, and the moist antiseptic compress applied The pain was relieved at once and the discharge after the operation slight No tendency to further undermining, on the other hand all indications point to an early and permanent healing of the abscess cavity

It is in cases like these that practitioners so frequently make a serious mistake by postponing from day to day opening and draining of the abscess If we had deferred the operation for another day or two the abscess would have ruptured into the rectum and would have led almost inevitably to the formation of an internal or complete fistula The horseshoe fistulæ following cases of ischio rectal abscess, so frequently found in any of the large surgical clinics are the best proof of the necessity for early operative interference The rule should be to open such abscesses early, from the external surface, and if fluctuation can not be felt from this direction but from the rectum, the tissues on the side of the rectum can be tunnelled with forceps after making a superficial incision, until the abscess cavity is reached The surgeon must so conduct the treatment that the formation of a fistula can be avoided, and this can be done in nearly all, if not all cases in which the abscess is opened before it ruptures into the rectum

Case 43 —Alva J Vananken, age 27, Troop K, First Cavalry Perirectal abscess On his last day in Cuba the patient had a mild fever and diarrhea , the latter persisted fifteen or sixteen days For the last ten days has had a throbbing pain in the post anal region An abscess found and opened in the median line between the anus and coccyx Under ether anesthesia the abscess cavity behind the rectum was freely opened with the Paquelin cautery, taking the fistulous opening in the median line as a guide for the incision The cavity was thoroughly disinfected and packed with iodoform gauze, over which the usual moist dressing was applied Rapid healing of the cavity by granulation

Case 44 —Robert Sylvester, age 24, Company G, Fourth Artillery Has been ill with typhoid malarial fever while in Cuba Returned from Cuba on the steamer *Iroma* and reached Camp Wikoff about September 1 Soon after his arrival he noticed pain on the left side of the rectum The pain and tenderness increased rapidly in intensity September 7, he was admitted to the surgical ward and the operation was performed without anesthesia three days later At this time the abscess was prominent on the side of the anus and the overlying skin presented an inflammatory blush Fluctuation very distinct from the rectum as well as from the surface The abscess was opened by a single incision and tubular drainage established, as the incision was large enough to serve for drainage After disinfection of the cavity and packing it lightly with iodoform gauze a moist antiseptic compress was applied The patient was very weak at the time the operation was performed, but gained sufficiently in strength in a week to warrant his transfer to a hospital in Philadelphia

Case 45 —Joseph Barret age 28 Third Infantry, Company G Ischio rectal abscess About the time of the surrender of Santiago had general malaise fever, vomiting and diarrhea for which he has since been on the sick list Several days ago he began to experience pain in the rectum which has increased steadily since, and at the time he was admitted to the surgical ward the ischiorectal abscess had opened spontaneously on the right side just within the anal margin General health much improved On August 31, under chloroform anesthesia the abscess cavity was distended with peroxid of hydrogen for the purpose of ascertaining its exact size and location A grooved director was inserted into the fistulous opening and used as a guide in laying open the abscess cavity freely with the knife point of the Paquelin cautery The abscess cavity was disinfected and packed loosely with iodoform gauze over which the moist compress was applied He improved rapidly after the operation and a few days later was transferred to a hospital in Boston

Case 46 —William Head, age 20 Eighth Ohio Infantry, Company G enlisted two and a half months ago Admitted to the surgical ward with a history of malarial fever and dysentery in Cuba, followed by ischiorectal abscess which discharged itself near the anal orifice on the right side Discharge continues profuse The peroxid of hydrogen test was applied to ascertain the extent of the abscess cavity which was found to extend high up into the ischiorectal fossa Owing to the marked anemia and general debility a counter opening was made lower down and thorough drainage secured in place of opening the abscess cavity freely with the Paquelin cautery Chloroform was used as an anesthetic The general and local conditions improved promptly after the operation

FISTULA

The spontaneous rupture of a pararectal or ischiorectal abscess into the rectum is generally followed by the formation of a fistula If the abscess communicates with the rectum its existence can be surmised from the intermittent discharge of pus and local symptoms which refer to the rectal lesion An internal fistula of such an origin is often made complete by the abscess finding eventually an external outlet somewhere in the anal region An external fistula caused by the opening of a pararectal abscess not infrequently becomes complete by the destructive process penetrating the rectal wall I have long ago abandoned the probe in differentiating between an external fistula and a complete one Injection of peroxid of hydrogen into the cavity under pressure makes a positive diagnosis at once If the fistula is external the abscess cavity becomes tense, if complete the peroxid foam enters the rectum and will escape from the anus The probe is only used after the test has made the diagnosis and then only as an aid in performing the necessary operation In diagnosticating the existence and location of an internal fistula the rectal speculum is of the greatest importance Rectal fistula will be less frequently met with when the profession as a whole recognizes the importance of early operative interference in cases of pararectal abscess In my surgical work in Camp Wykoff only two cases of rectal fistula presented themselves for operative treatment

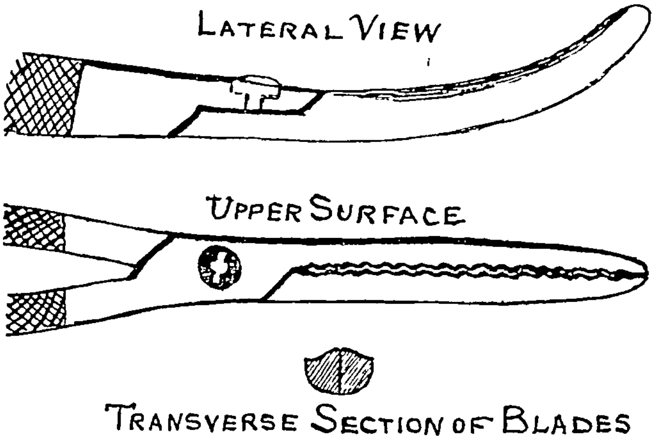
Case 47 —Lieut G W Goode Troop I, Ninth Cavalry Hemorrhoids and fistula He was admitted to the surgical ward August 24 He has been almost habitually constipated and has been much in the saddle He knows of no definite preceding illness to account for present condition He has had much pain and bleeding on defecation, pain persisting for an hour or two after Examination reveals large internal and external hemorrhoids and an incomplete internal fistula following the rupture of a post rectal abscess, into the rectum through the middle of the sphincter muscle posterior side The abscess cavity the size of a walnut was freely laid open upon a grooved director with the knife point of the Paquelin cautery The incision was carried directly back [illegible] through the median line The hemorrhoids two in number affecting the posterior segment of the anal ring were removed by clamp and cautery The abscess cavity was loosely packed with a strip of iodoform gauze The rectal tampon remained for two days The patient made a rapid recovery and was able to leave the hospital [illegible] pain attending and follow[illegible] [illegible] peared immediately after [illegible]

Case 48 —John M B[illegible] Third [illegible] enlisted four months [illegible] partment of the Gen[illegible] good until he went to Tampa, June 8. At that time he suffered from diarrhea which was persistent, but did not prevent his doing duty in the saddle. For the past five weeks and following a severe pain in the rectum which continued several days, he has noticed a discharge of pus from the rectum. The pain did not disappear entirely after the abscess ruptured into the rectum and was always aggravated during defecation. August 28, under chloroform anesthesia the sphincter ani was dilated, the internal opening was found, the cavity distended with peroxid of hydrogen, external counter opening made by the aid of the grooved director and the intervening tissues divided with the Paquelin cautery. Iodoform gauze packing and dry dressing. The internal opening in this case was just above the sphincter muscle, the abscess on the right side of the rectum. Rapid healing of the abscess cavity.

HEMORRHOIDS

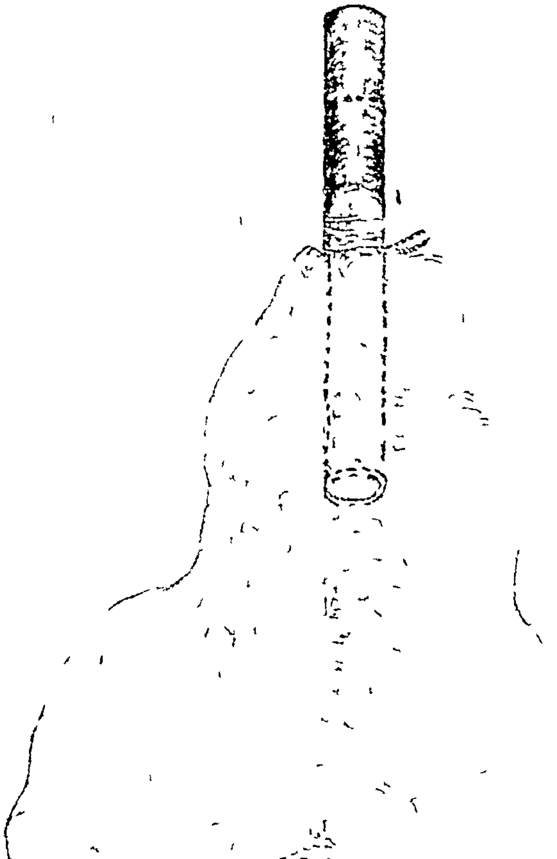
A large number of hemorrhoid cases came to the surgical ward with the desire and expectation of receiving the benefits of a radical operation. I am satisfied that only a small percentage of those affected were willing or prepared to be subjected to an operation. Some of the cases examined peremptorily declined to receive treatment knowing well that the results would put one claim for pension beyond their reach. In my capacity as operating surgeon of the camp I was very anxious to curtail the list of pensioners of this war by performing operations for surgical affections which, if left alone, would furnish a just claim upon the Government. On the whole, I found the colored soldiers much more willing than their white comrades to be benefited by surgery. They proved themselves worthy of their hire in the hospital as well as on the battle field. Too much can not be said in praise of our colored soldiers. They showed a staunch faith in their doctors as well as their commanders, and were ready at all times to follow their advice as well as the commands of their officers. Nearly all of the hemorrhoids operated on showed pathologic appearances which demonstrated their recent origin. In a very large percentage of cases the first manifestation of hemorrhoidal condition was preceded by intestinal disturbances, diarrhea or dysentery. Fortunately, I had two Paquelin cauteries at my disposal as soon as the operating tent was opened. As I said in the beginning of this paper, my instrumentarium at first was a very scanty one. Instruments, however, began to come, day after day, and finally I had an excellent supply, including a number of cases for special work. The absence of a proper pile clamp from the outfit of the surgical ward at the outset, necessitated the use of something as a substitute. This was found in a curved hemostatic forceps. Except for its lightness, and therefore comparatively inefficient grasping power, this answered the purpose admirably. In fact, the facility and accuracy with which the hemorrhoidal swelling could be clamped and isolated, the small space required for its use, and its general convenience and ease of handling as compared with heavy clamps, now in the market, led to the devising by Major Adams of Chicago, of a hemorrhoid clamp similar to the forceps used, but so constructed as to obviate the defects of weakness and imperfect grasp found in that instrument. The use of the forceps as a clamp has demonstrated that the amount of pressure and crushing exerted by the old fashioned instruments are unnecessary and uncalled for, also that there is no need of ivory plates to prevent the transmission of heat through the metal of the forceps to the underlying mucous membrane, as in no instance was any ill effect observed from this cause. Another advantage of the narrow blade forceps has been demonstrated in the absence of any hemorrhage whatever after operation. The new clamp has blades with a serrated grasping surface 5 cm. long, curved on the flat, the width of the blades closed is 9 mm., their thickness 6 mm., beveled away from the upper to the outer edge for 1 mm. The object of the bevel is to allow of the operation of the cautery with the least possible contact with the metal of the clamp, to avoid heating. The blades come into contact at the point first, so that uniform pressure is exerted the whole length of the blades when closed, and the hemorrhoid can not escape its grasp at the point, as often happens with the ordinary clamp.

The handles are arranged like those of a needle forceps. With one exception the hemorrhoids were removed with the knife point of the Paquelin at a dull red heat, after clamping the swelling at its base. The hemorrhoid was first grasped with a dissecting or hemostatic forceps, when the base of the cone elevated to the desired extent was grasped and clamped with the forceps and the mass outside of the grasp of the instrument shaved away with the cautery. The operation of removal was always preceded by dilatation of the sphincter. The patients were always properly prepared for the operation the day before. The rectum was thoroughly cleared out by the administration of a cathartic and irrigation. The last enema was given on the morning of the operation. As a rule, two or three seizures were made. After dilatation of the sphincter the hemorrhoidal swellings were located and grasped with forceps so that the work of clamping and cauterization could proceed without interruption. Care was exercised in every case not to remove too much tissue, due allowance was given for subsequent contraction. The anal region was shaved and prepared in the same manner as for operations in other localities. One of the principal sources of pain after operations for hemorrhoids has been the protrusion and swelling of the cauterized surfaces. For many years I have succeeded in preventing this very painful post operative complication by resorting to drainage and rectal tamponade. This method of dressing rectal wounds after this operation is not sufficiently known and practiced. Those who have not tried it might entertain a fear that it is a source of distress rather than comfort. Quite an extensive experience with this method of after treatment enables me to make the unqualified statement that the rectal tampon, properly applied, is well borne by the patients and makes the use of anodynes superfluous. I never administer opiates after operation for hemorrhoids. The rectal tampon not only obviates unnecessary pain, but it also is almost an absolute protection against secondary hemorrhage and more than this, it provides for free rectal drainage and constitutes the best possible dressing for the cauterized surfaces.



Hemorrhoid clamp devised by Major Adams

When I first used this tampon, I was under the impression that it was something new, but I learned later that Mitchell Banks had used a very similar contrivance before. The tampon is made by taking a piece of rubber tubing eight inches in length and inserting into it a glass cylinder three fourths of an inch in diameter and about 2 inches in length. The glass tube is placed where the gauze tent is tied over the rubber tubing for the purpose of furnishing a support to the string with which the gauze tent is tied upon the tube and to insure patency of the tubular drain. The rubber tube should project well over the glass cylinder on the rectal side The gauze tent is made of one or two layers of iodoform gauze After completion of the operation the tent is carefully folded and the upper portion covered with vaseline The tube is then inserted into the rectum to the depth of three or four inches and the space between the tent and tube packed with strips of iodoform or plain sterile gauze After the required amount of packing is inserted the tampon is pushed in the direction of the rectum sufficiently to bring the pressure above the grasp of the sphincter muscle In doing this the projecting mucous membrane and what may remain of the external hemorrhoids are completely reduced The gauze outside of the anal orifice is then wound around the tube and forms a part of the external dressing Over the gauze a wide ring of absorbent cotton is applied and the whole retained in place by a T bandage The tampon should remain for 24 to 48 hours



Rectal tampon Rubber tube 20 cm glass tube 8 cm

In removing it traction is made on the gauze tent sufficiently to bring the packing within easy reach when it is removed before an attempt is made to extract the tube After the removal of the tampon the patient should be given a laxative and after this has acted the cauterized surfaces now minus the eschar are protected by applying carbolated vaseline or some other antiseptic non irritating ointment I have made it a rule to keep the patient confined to bed for at least a week still better two weeks The cases of hemorrhoids operated upon in this camp with very few exceptions have been men whose general health was much impaired, yet in every case the wounds healed quickly and in the most satisfactory manner under the treatment outlined above

Case 49 —M J McNulty age 31, Company D Sixteenth Infantry, enlisted six months ago Has had small hemorrhoids for two years, causing inconvenience only after heavy drinking In June, while in Florida, bleeding at stool occurred for the first time Since he suffered from malarial fever and diarrhea during the Cuban campaign, he has suffered from profuse bleeding on defecation September 3 under chloroform anesthesia, three hemorrhoidal swellings were removed

Case 50 —George Morton, age 47 sergeant Ninth Cavalry Troop A, colored, has been in the service ten years and seven months Had dysentery two months ago, since then has suffered from pain in the rectum and bleeding with each evacuation of the bowels August 26, under chloroform anesthesia, three hemorrhoids, partly external and partly internal, were removed by clamp and cautery

Case 51 —Jesse Donaldson, age 30, Troop M, Ninth Cavalry, colored, enlisted three months ago While in Tampa, patient suffered from malarial fever and diarrhea, the latter continued for three or four days Has not been well since that time Since August 1 he has been much inconvenienced by a hemorrhoidal affection which developed recently Operation performed under chloroform narcosis, September 2 Three internal hemorrhoids, two posteriorly, one at upper right quadrant, were removed in the usual way by clamp and cautery

Case 52 —Claude F Hall, age 23 Company G, Sixteenth Infantry, had hemorrhoids about four years ago, but not so severe an attack as the present Recovered without operation Has been in the service since the 17th of September a year ago Following an attack of malaria and diarrhea in Cuba, he has been suffering from hemorrhoids for the past six weeks He has no bleeding, but the hemorrhoids have been protruding constantly and are very painful September 7, under chloroform anesthesia, three internal hemorrhoids were removed in the usual manner by clamp and cautery They were located respectively in the posterior right and left quadrant

Case 52 —James Jervis, age 19, Company K Thirty fourth Michigan Infantry, enlisted three and a half months ago Had diarrhea two weeks, before leaving Cuba Has had much pain and bleeding with movements of bowels since Never had rectal trouble of any kind before August 31, under ether anesthesia, two internal hemorrhoids were removed

Case 53 —Ora Keithley, age 23 Troop M First Vol Cavalry, first suffered severe pain from hemorrhoids in July, when on duty in Cuba He had previously an attack of rheumatism from exposure to rough and wet weather and sleeping on wet ground On September 7 three hemorrhoids, partly external and partly internal, were removed

Case 54 —Horace Carden, age 24 Troop M, First Vol Cavalry, has suffered off and on for three years from hemorrhoids, the present attack was not preceded by any bowel complaint or other illness Has had no bleeding, but much pain and itching Operation under chloroform anesthesia, September 8, when three internal hemorrhoids were removed

Case 55 —Silas McGovern, age 28, Troop A, Ninth Cavalry, colored, has been in the service three years Patient was admitted to the surgical ward September 3 One week ago, directly following an attack of diarrhea, he noticed pain in the rectum on defecation The mucous membrane of the rectum protruded with each stool Day after admission the patient was chloroformed and three internal hemorrhoids were removed The appearance of the swellings indicated their recent origin The mucous membrane was in a state of catarrhal inflammation The posterior half of the anal ring was principally affected by the hemorrhoids as well as by the catarrhal inflammation

Case 56 —Joseph Etter, aged 19 Troop I, Ninth Cavalry, colored, has suffered for the past two months from hemorrhoids which he believes were brought on by heavy lifting Since the supposed "strain" he has experienced severe burning pain with each movement of bowels and profuse bleeding Pain has been persistent after stools for several hours September 8, under chloroform, three large dark blue hemorrhoids were found one on right and left side posteriorly and one on anterior left quadrant The swellings were removed as usual by the use of clamp and Paquelin cautery

Case 57 —Lee Shanks age 26 Troop A First Vol Cavalry has been in the service three months He has been suffering from hemorrhoids for the past month with no illness preceding He has had much pain after defecation but no bleeding Under chloroform three external hemorrhoids were removed September 2 One of the swellings occupied the posterior wall of the rectum to the right of the median line one to the left of the median line posteriorly and the third in the anterior left quadrant The hemorrhoids were disposed of in the usual manner

Case 58 — [illegible] H [illegible] First Cavalry, been [illegible] profuse [illegible] latter part of July, following an attack of diarrhea while on duty in Cuba Pain has not been severe at any time September 10, under chloroform anesthesia, four very large internal hemorrhoids were removed by clamp and cautery, two from either side of the median line anteriorly The hemorrhoids in this case were distinctly venous, the swellings being composed of ectatic veins almost exclusively

Case 59 —Henri Meuronval, age 43, Company F, Second Volunteer Engineers, has suffered from hemorrhoids since puberty, with exacerbations at varying intervals Recently much pain and bleeding Examination under chloroform, September 11, revealed a large internal venous hemorrhoid on the right side, which, owing to the fact that the Paquelin cautery did not work that day, was treated by ligature Before the silk ligature was applied, the mucous membrane at the base of the swelling was incised An ulcer as large as a dime was detected directly over the sphincter muscle in the median line and posterior surface This ulcer was evidently the remote result of a retroanal abscess which occurred a year ago Since that time the pain during and after defecation has been much more severe Besides stretching the sphincter, preliminary to ligation of the hemorrhoid the superficial fibers of the sphincter muscle were divided, carrying the incision through the center of the anal ulcer Rectal tamponade as usual The pain was relieved promptly by the operation

Case 60 —Capt Nat Phister, age 44, Company G First Infantry, has had attacks of hemorrhoidal distress in 1888 and 1893 but not so severe as at the present time He has suffered severely with present attack since August 19 the exciting cause being constipation The suffering was much aggravated by a long ride in the saddle which he was compelled to take while the hemorrhoids were prolapsed Since that time has had severe pain and constant muco sanguinolent discharge, necessitating the wearing of a diaper Under chloroform a medical operation was performed September 8, consisting in the removal of two large hemorrhoids, largely external, and affected by extensive excoriations The operation afforded the desired prompt relief

Case 61 – John M Dixon, age 40, Company B, First Infantry, had an operation seven years ago and had no trouble after that until about the first of August when after a prolonged attack of dysentery he began to suffer with prolapse of the rectum He has been in the service seventeen years and when last attack occurred he was in Cuba He reached Camp Wikoff September 13 He has been greatly debilitated by the dysentery, and the prolapse occurs whenever he assumes the erect position or attempts to walk Has much constant distress with pain, smarting, itching and occasionally bleeding Under anesthesia operation was performed September 14 A large hemorrhoid was removed from the posterior aspect of the rectal wall and a vertical strip of mucous membrane by clamp and cautery A smaller swelling and strip of mucous membrane were removed from the left quadrant in a similar manner Rectal tamponade Strict directions were given that the patient should be kept in the recumbent position for at least a week

Case 62 —James Skinner, age 28, Troop H, Ninth Cavalry, colored, was sick in Cuba with dengue fever, about twenty days, beginning about July 14 Recovered only partially from this before (beginning August 14) he had an attack of malarial fever lasting fifteen days During both attacks he had poignant diarrhea During the early stage of malaria the hemorrhoids appeared, with much pain, prolapses and bleeding On September 13 under ether narcosis, two internal hemorrhoids were removed from the posterior wall of the rectum middle line, and the right posterior quadrant Patient's health much impaired, anemia marked

Case 63 —John Holloman, age 22 Troop B, Ninth Cavalry, colored, has always been in good health until the latter part of July, when he had diarrhea for three days while on duty in Georgia Since then he has had pain on defecation, prolapse of the bowel and sensation of incomplete evacuation, but no bleeding September 15, the patient was etherized and four internal hemorrhoidal masses removed by clamp and cautery

Case 64 —Abraham Hill, Company C, Twenty fourth Infantry, colored, has been in the service twelve years About eight years ago he had hemorrhoids, which were operated on successfully For the past three months, while on duty in Cuba, he has been suffering great pain on defecation and slight bleeding Rectal prolapse at stool, always easily reduced Has enjoyed fair health and attributes the attack to the heat and dampness of the Cuban climate Operation under chloroform anesthesia performed September 16 Three very large internal hemorrhoids located posteriorly and laterally, were removed in the usual way by the clamp and cautery

The cases related above are instructive in showing what kind of surgery may be expected among soldiers who have participated in a campaign in a tropical country, subject to its indigenous diseases and debilitated by its climate, improper food and exposures The results obtained must also counsel the military surgeons to practice their art not only on the battle field, but also for surgical lesions caused independently of wounds and so often overlooked in the field hospitals I have to record only two deaths, and both patients were operated on in the wards of the general hospital, being too weak to be transferred to the surgical ward Both of them were low with typhoid fever complicated by large metastatic abscess, in one the parotid, in the other the submaxillary being involved One died the next day after incision and drainage, the other on the third day I am satisfied that many of our cases of phlegmonous and typhoid abscesses would have died without timely and thorough surgical interference In many of the other cases, more especially hemorrhoids and fistula, the operations performed will restore the men, with the aid of proper general treatment, to their usual *condition, and cut them off* from the pension list In all aseptic cases the wounds healed by primary intention, the best possible proof that good surgical work can be done in an operating tent in the field, and with very limited facilities for carrying out aseptic precautions Since writing the above paper, a number of interesting surgical cases have been operated on in the surgical ward, which I will now report under the head of

MISCELLANEOUS CASES

Case 65 —Edward J Hill, aged 23, Troop I, Ninth Cavalry, colored, enlisted three months ago Painful tetanoid spasm following gunshot wound of heel About two months ago, while in Tampa, accidentally shot himself through the left heel with a Krag Jorgensen carbine (30 cal) The bullet passed transversely in an oblique direction through the os calcis There is no evidence of comminution of the bone, the contour being well preserved and the surfaces smooth While under treatment for the wound, he thinks he contracted " rheumatism in both loins " He has suffered twice from painful tetanoid spasm of the gastrocnemius, the attacks lasting about three hours, then subsiding as suddenly as they came on and leaving the leg painless and useful He entered the hospital August 28, suffering from a third attack which lasted more than twenty four hours, subsiding suddenly during the night after his admission The gastrocnemius is firmly contracted, the heel raised, and any attempt to extend the foot aggravated the pain No tenderness of heel or scars

Case 66 —Wade H Bell age 21, Company A, Sixteenth Infantry, enlisted May 23 He has been troubled with varicocele for the past two months It causes soreness and pain on walking any distance, incapacitating him for guard duty, and he believes the difficulty is gradually increasing He first noticed the varicocele when he was sick first with malarial fever for five days Had three such attacks Veins nearly the entire length of the cord much dilated and tender on pressure Operation by excision under chloroform anesthesia, September 5 Transverse suturing of the external wound to shorten the elongated scrotum

Case 67 —James H Hebel, age 21, Battery 3 Fourth Artillery, enlisted three and a half months ago Purulent ophthalmia and perforative keratitis On Saturday, August 27, he felt sensation of a foreign body in the right eye The next day profuse purulent discharge On examination August 31, the conjunctiva was found intensely swollen and vascular, discharge of pus profuse, eyelids swollen and edematous, pupil contracted, beginning of ulceration near the center of the cornea, beginning pannus, intense photophobia There is no trace of gonorrheal infection The treatment consisted of frequent cleansing with boracic acid solution and application of ice Atropin could not be secured for three days After that time it was used in sufficient strength to dilate the contracted pupil In spite of all that could be done, the corneal ulcer perforated and the anterior chamber of the eye was partially evacuated At this time the patient obtained a furlough and, on his own responsibility, undertook the journey to his home in Chicago He was advised to place himself on his arrival under the care of Professor Hotz

Case 68 —George Slate, age 24 civilian Habitual dislocation of the left shoulder joint This is the sixth time during the last two years the accident occurred Patient probably under the influence of liquor when injured, as he does not know how it happened Became aware of the dislocation on waking up in the morning Several contusions on other parts of the body were discovered Dislocation of head of humerus downward and forward underneath coracoid process of the scapula On request of the patient chloroform was administered, and the luxation reduced very easily by extension and rotation The arm was immobilized by a Velpeau bandage Accident September 15, reduction the following forenoon

Case 69 —Peter Hansen, age 32, farrier, Troop L, First Cavalry, fell from stumbling horse September 15, in such a way that he struck the ground with his left shoulder He has been unable to raise his arm since Carries affected shoulder lower than the opposite one Pain and circumscribed tenderness over the clavicle about an inch from the acromio clavicular articulation Patient somewhat obese, so that the distal side of the clavicle can not be readily traced Fracture of the clavicle near the accromion process was diagnosticated, although no distinct displacement could be made out or crepitus elicited Arm supported in a mitella

Case 70 —Edward Consan, age 24, Troop I, Ninth Cavalry, colored Enlisted four months ago Admitted to the surgical ward September 7, with swelling and extreme tenderness of anterior surface of the left tibia Previous diagnosis of osteomyelitis had been made No history of injury The swelling is most marked over the central portion of the shaft of the bone The onset of the disease the location and character of the swelling and the nocturnal exacerbations of the pain left no doubt as to the syphilitic nature of the periostitis Inquiry develops a history of primary syphilis four years ago Has had secondary eruptions and mucous plaques, etc , and at the present time there is hyperplasia of the lymphatic glands in all the principal accessible regions

Rest in bed, elevation of limb, hot, moist, antiseptic compress and the internal use of potassic iodid in 15 grain doses, four times a day constituted the treatment that was directed Under the iodid the pain and tenderness diminished as well as the swelling A few days after his admission a small fluctuating swelling could be felt in the center of the inflamed area, but as no pus was expected the use of the knife was refrained from This superficial central softening is often seen in gummatous swellings and will disappear under the treatment the patient is receiving now If absorption of the liquid contents of the fluctuating swelling does not take place, tapping and washing out with a 5 per cent solution of carbolic acid will be resorted to

Case 71 —L J Torney, age 24 Troop D, Sixth Cavalry, has been in the service two years and four months Pressure paralysis of radial nerve While in Cuba was in the hospital three days for chills and fever He joined his command after his discharge from the hospital and was quite well for three weeks, when suddenly he became unconscious and was afterward wildly delirious and had to be tied to a litter for safe transportation During this trip he lost the use of the extensor muscles of the right hand The paralysis remains complete, otherwise the patient is in fair condition, although occasionally the temperature rises to 102 F The patient is not confined to bed The paralysis of the musculo spinal nerve was undoubtedly caused by pressure during the transportation on the litter Massage and electricity were advised

Case 72 —Thomas Clemens, age 21, recruit, Twenty fourth Infantry, enlisted two months ago Hydrocele of the cord Came to the surgical ward for diagnosis September 16 Six months ago while in the act of lifting a heavy box was taken rather suddenly with pain in the right side of the scrotum In a few days a swelling developed, the size of a hazelnut, which has remained The swelling is tender to the touch and is connected with the cord about an inch above the epididymis The swelling is circumscribed and fluctuates distinctly It was diagnosticated as a hydrocele of the cord

APPENDICITIS

It is somewhat astonishing that, in these days of appendicitis rage, of the many thousand soldiers who have landed at Montauk, not one case of appendicitis came under my notice that would have justified an operation We would naturally expect that among such a large body of men, almost all of them at some time during the last five months the victim of intestinal affections, the appendix should have claimed its good share of disease The climate, the diet, the previous intestinal affections contracted in Cuba should have, according to our ideas of the nature of appendicitis, combined in exciting the disease But such was not the case The profession is well aware of the fact that surgeons who can see nothing else but appendicitis in cases in which the patients complain of pain in the right iliac fossa, have performed laparotomy, and these cases were not few in number, where as an excuse for their error in diagnosis they have completed the operation by removing a normal appendix Of the three cases of supposed appendicitis sent to the surgical ward, in only one the diagnosis proved correct, and this case was such a mild one that an operation was not deemed justifiable One proved to be malaria, and the third typhoid fever

Case 73 —Charles W Dyer, age 19, Company K Seventh Infantry, has been in the service only six weeks He was taken sick September 11, and was transferred to the surgical ward three days later The attack commenced with a chill and some fever, the following day pain in the right iliac region set in Bowels constipated no vomiting, loss of appetite Had a similar attack a year ago, from which he recovered in a few days On his admission to the surgical ward there was slight tenderness over the appendix and cecum no tympanites and no palpable swelling or muscular rigidity, temperature only a degree above normal Catarrhal appendicitis was diagnosticated, complicated probably by a similar condition of the cecum Rest in bed, liquid diet and ounce doses of equal parts of castor oil and sweet oil, four hours apart, until the bowels move, constituted the treatment, under which the patient recovered in a few days

Case 74 —James Reid age 21, Company I, Seventh Infantry has been in the service three months Was admitted to the surgical ward September 1, with the diagnosis of appendicitis The clinical history, as well as his condition at the time of admission, warranted a change in the diagnosis from appendicitis to typhoid fever The temperature was erratic, showing malarial complication, but the curve from day to day showed the typhoid part to our satisfaction The tongue was brown and dry with red tip and margins Pulse 100 and temperature at that time varied from 101 to 105 F Abdomen tympanitic and great tenderness in the right iliac fossa Numerous rose spots appeared on the abdomen next day Under appropriate treatment the fever subsided gradually at the end of the third week of his illness The great tenderness in the right iliac fossa undoubtedly led originally to a wrong diagnosis but it simply indicated in this case deep typhoid ulcers in the lower portion of the ileum

Case 75 —Martin G Norman, age 27, Seventh Infantry, Company C, enlisted three months ago On leaving Santiago he began to feel bad with headache anorexia and malaria, became worse lost sleep and complained of pain in the stomach, most severe on left side under costal arch bowels constipated, tongue large, flabby, with indented margin Spleen markedly enlarged At times has had pain in cecal region, which disappeared promptly after the administration of a laxative Under quinin this patient improved rapidly

STRICTURE OF THE URETHRA

Case 76 —H J Ewing, age 54, Company A, Ninth Infantry, has been in the service twenty eight years Admitted to the surgical hospital September 12 and transferred the next day to a hospital in New York Has suffered from stricture of the urethra for a number of years Exploration with the olive pointed bougie reveals a small and tight stricture in the membranous portion of the urethra The cause of the stricture is a fall upon the perineum he sustained in 1861 Denies venereal infection of any kind Of late years he has had attacks of stoppage of the urine The stream is small and micturition frequent Patient transferred to New York for treatment

Case 77 —Frank Hugh Banks, age 20 Ninth Cavalry Troop D, enlisted three months ago Has had several attacks of gonorrhea the last, two months ago The stricture for which he was admitted to the surgical ward September 1 involved the membranous portion of the urethra was an old one and was much improved before he was transferred on the 8th to his command By careful and prolonged attempts a No 8 bougie passed the stricture The treatment consisted of gradual dilatation

Case 78 —T C Mark, age 20, Thirteenth Signal Corps enlisted three months ago Has stricture of the urethra dating back to gonorrhea two or more years ago Examination made September 14 shows stricture half an inch back of the meatus A 14, another just in front of the scrotum admitting a 12 Gradual dilatation was commenced but patient was transferred to a hospital in Boston two days later for further treatment

The few cases of gonorrhea syphilis and stricture observed in Camp Wikoff speak well for the morality of our army

ADDITIONAL CASES OF FRACTURE

Two cases of fracture of the long bones occurring in men belonging to the Cuban Army are of interest in showing impaired nutrition as one of the causes of delayed or non union

Case 79 —Hillyard H Felder, age 44, packer, not enlisted Five weeks ago, in Cuba, fell from a freight wagon, jumped to save himself and landed on his feet in a small hole, twisting his legs He sustained a transverse fracture of the right tibia about an inch above the base of the inner malleolus, and a transverse fracture through the middle of the external malleolus He came to the surgical ward September 14, the left limb in lateral splints the right in plaster of Paris bandage None of the fractures of the right leg have united and there are no signs of formation of provisional callus Fracture of left fibula united with some deformity Patient is over six feet in height and very much emaciated Plaster of Paris bandage renewed on right limb, no dressing for the left one Operation for non union of fracture of tibia advised as soon as the patient's general condition is improved

Case 80 —John Coleman age 28, Irish, stevedore, employed at the dock, Montauk harbor' Admitted during the afternoon September 12, to the surgical ward While handling lumber was struck on right side of face by a crowbar handle set in motion by the slipping of a wrench The accident occurred an hour before his admission to the hospital The patient was unconscious and very restless Right side of face swollen Two small wounds had been sutured before he entered the hospital Exophthalmos of right eye caused by retro bulbar hemorrhage, divergent strabismus and dilatation of pupil, which does not respond to light Free hemorrhage from mouth, no hemorrhage or serum discharge from either ear Through the swollen part of the cheek the malar bone could be distinctly moved and crepitus was distinct Pulse 60 No paralysis Fracture of the malar and superior maxilla with extension of lines of fracture through the base of the skull was diagnosticated On the second day the patient's condition was very much improved but toward evening a rapid rise in temperature led to a careful search for the cause of the fever Professor Delafield was called into consultation and found a right lobar pneumonia

Since leaving the camp I have been informed by Dr Greenleaf that the pneumonia terminated in a typic crisis at the usual time, and that the patient is recovering rapidly from the injury

Case 81 —Charles Lubbas, age 44, German, engineer Fracture of the clavicle A week ago while at work as engineer on the *Vigilancia*, was struck on the right shoulder by a falling plank producing a fracture of the clavicle at the junction of the outer with the middle third The fracture was oblique, the internal fragment displaced upward and forward and some overlapping Reduction and Sayre Velpeau dressing Patient was transferred the same day to New York

ADDITIONAL CASES OF GUNSHOT INJURIES

Case 82 —Peter Carr, aged 40, sergeant Company F, Sixteenth Infantry In service 16 years and nine months Was wounded July 2 before Santiago He fell down at once on receipt of the injury, and on trying to arise found that the left leg was paralyzed both as to sensation and motion He was carried to the First Division Hospital where the wound was dressed and he remained four days thence to Siboney where he staid three days before being taken on board Hospital Ship *Relief* He was landed from the *Relief* at Governor's Island, has had a furlough of thirty days and on Sept 16 reported for duty at Camp Wikoff, entering the surgical hospital Sept 18 Examination shows a vigorous looking man with partial paralysis of left leg There is a scar on the left side of the back 2½ inches from the median line and on a level with the second lumbar vertebra This marks wound of entrance of the ball there is no wound of exit The patient says the wound healed very promptly with only slight discharge, further that four weeks elapsed before he could rest any weight upon the leg, but he has been improving ever since and can now walk with a cane There is marked wasting of the extensor muscles of the left thigh and marked impairment of sensation of the left foot and leg He says that occasionally the leg gives way in walking especially if the toe strikes something above the level of the ground He can not raise it when flexed and states that with much walking the knee swells There has been no impairment of function of bowels or bladder and no priapism

In this case the ball probably passed transversely producing contusion of the cord and bruising the roots of the spinal nerves very near their origin it is probably lodged where it will do no further harm The man says the X ray was used twice but the result of examination was not reported to him

Case 83 —B F Frazier, age 24, Company B, Twenty fourth Infantry, has been in the service eleven months While in action July 1, before Santiago, he received a wound of the right hand, the bullet entering the web between the index finger and thumb, passing through the ball of the thumb and making its exit at the base of the adductors over the anterior row of carpal bones No bone injury The wound was packed with gauze The wound of exit healed in two weeks, the wound of entrance has never closed completely and has discharged from time to time a small quantity of serous pus The patient was admitted to the surgical ward July 15 Examination with the probe revealed the presence of a small metallic body During the preparation of the hand for operation a small triangular fragment of metal was washed out of the fistulous opening Under anesthesia next day the wound was again explored and the probe passed to a point underneath the scar of the wound of exit detected another piece of metal which was removed by incising the scar, when a fragment of lead much larger than the first was extracted On scraping out the fistulous tract with a small sharp spoon shreds of gauze were removed The bullet that inflicted the injury must have been a deflected one, as otherwise no fragments of lead would have been left in the wound The gauze undoubtedly belonged to the packing used at the first aid dressing The wound was dressed in the usual manner, no provision for drainage was made, with the expectation that it would heal speedily by primary intention

Case 84 —John Marks, age 22, Troop D, Sixth Cavalry, enlisted five months ago He was wounded in the charge on San Juan Hill, July 1 The bullet cut the margin of the upper posterior edge of the right ear, entered the scalp one inch above and one and a half inches behind the right external meatus, and emerged from the scalp three inches in a direct line from point of entrance, probably making a superficial groove in the external surface of the occipital bone The patient says he was taken to Key West while in an unconscious condition, in which he remained two days July 6 he was operated on, the wound being laid bare by a curved incision and a small piece of bone is said to have been removed The wound healed in a month Scars healthy and not sensitive to pressure He complains now of attacks of throbbing pains from back of head to eyes, three or four times a week, the attacks last sometimes half an hour He does not complain of vertigo or disturbance of any of the special senses Whether the symptoms are purely of a neurotic nature or whether they depend on the injury must be determined by future observation Potassic bromid was prescribed

From the above report I have excluded minor cases that were treated as out door patients or inmates of the surgical ward not of sufficient interest to have any material bearing on the subject of this paper This communication has been written for the special purpose of pointing out to the profession, and more especially to the military surgeons, the nature and sphere of surgical work in field hospitals at the end of a war This completes my surgical work of this war, and I return to civil life grateful to the authorities and my colleagues for the kindness and many courtesies I have received at their hands

General Hospital, Camp Wikoff, Sept 17, 1898

THE KRAG-JORGENSEN BULLET-WOUND

BY LIEUT -COL VALERY HAVARD

CHIEF SURGEON U S VOLUNTEERS
BRIDGEPORT CONN

At my request, Dr Mariano Ojuna, surgeon in chief of the military hospital at Santiago de Cuba, kindly sent me, on Aug 19, 1898, some notes which I offer as a small but interesting contribution to a very important subject Dr Ojuna regretted his inability to prepare a more elaborate report, being at the time exceedingly busy in superintending the transfer of the sick and wounded to the Spanish transports But first a few preliminary remarks

He states that 541 wounded—43 officers and 498 men came into the military hospital for treatment Of the killed he makes no mention. As this hospital was the only available one, we may infer that all the wounded really *hors de combat* were admitted to it

On the other hand, according to the official Spanish report, the casualties were as follow Killed, officers 17, men 107, wounded, officers 59, men 556 missing, officers 7, men 116

As this report includes the few navy casualties which occurred before the destruction of Cervera's fleet, and likewise accounts for a certain number of slightly wounded men who never entered the hospital, the discrepancy between it and Dr Ojuna s figures is sufficiently explained We may note, incidentally, that the above statistics show a proportion of casualties of about 10 per cent —1 7 killed and 8 3 wounded On our side, the total casualties at San Juan Hill were about 13 per cent —1 86 killed and 11 14 wounded The ratio of killed to the whole number struck was one fifth among Spanish, and one seventh among American troops

In order to justly appreciate the results described by Dr Ojuna, it should be remarked that the hospital where all these cases were treated is an old building without adequate water supply and without sewerage, the excreta being emptied into a large pit, it was also at that time crowded to two or three times its normal capacity in a word, it appeared beyond the possibility of good sanitation To this we may add that proper food and several important medicines were scant and became entirely exhausted Dr Ojuna's notes, freely translated are as follow

" Since the beginning of hostilities, 45 wounded officers were admitted to this hospital, 26 have been discharged cured and 7 died, of the others, only 2 were serious cases one with comminuted fracture of the left tibia, already united and nearly well, the other with fracture of the same bone but loss of over a centimeter of substance nearly throughout its thickness, in this case a cure is also expected, in time

"All these wounded, with hardly an exception, never had any fever They were mostly treated with solution of corrosive sublimate, iodoform, iodoform gauze and absorbent cotton, that is, with antiseptic dressing, changed only every two or three days according to indications There were fractures of various bones, such as humerus, ulna, radius and those of the carpus, tarsus and metatarsus, but I did not observe a single case of arthritis, nor the slightest complication As an interesting fact, worth special mention, I did not have to perform a single amputation among all the wounded officers

"Of the seven who died, two had the skull fractured by fragments of shell, with protrusion of brain matter, while the other five succumbed to internal hemorrhage or peritonitis

"Of the wounded soldiers, 498 were admitted, 31 died of purulent infection, tetanus, internal hemorrhage and severe wounds of the skull and brain, the latter causing the greater part of this mortality There now remain only 47 cases which will require ambulance transport to the ship

"The parts involved were mostly the extremities, inferior and superior much more rarely the chest, head and abdomen Very many cases were of great gravity but thanks to the treatment pursued, the skill of the surgeons and the sanitary care of the attendants, all dangerous symptoms subsided in a few days and the cure followed a normal course, the wounds remaining completely aseptic Here also the striking fact must be stated that not a single amputation was required or performed, a result speaking high praise for the conservative surgery always advocated by Spanish surgeons, as well as for the treatment followed

"As a general rule, the bullet passed through the body or limb, making two clean holes those of entrance and of exit Some wounds had no hole of exit but in most of them the bullet lodged near the skin and was easily extracted[1]

"In the case of an officer, the bullet ranged through the face the hole of entrance was very small and otherwise normal, but that of exit was much larger with irregular, ragged edges, burnt and discolored by grains of powder, there was much destruction of tissue and healing was very slow I believe this case was produced by an explosive bullet, such as the insurgents had frequently used before, and that an insurgent was the author of this outrage against the laws of war Never did the thought enter my mind that it could be imputed to our loyal enemy, the Americans

"The average time required for the healing of the great majority of our wounded was from 20 to 25 days, even of those most gravely hurt penetrating wounds of abdomen and chest recovered in a proportion of 70 per cent with amazing rapidity, without leaving any complications

These notes, incomplete as they are, corroborate the observations made among our own wounded of the effects of the Spanish Mauser bullet, and justify us in formulating the following conclusions

1 The rapid-firing, long-range modern rifle with small steel jacketed bullet, does not produce a larger percentage of casualties than the weapons used in our Civil War or the Franco Prussian War

2 The proportion of killed to the wounded is less than before

3 Wounds heal with astonishing rapidity, even a majority of those penetrating the abdomen and chest, so fewer deaths occur in field hospitals

4 Few, if any, primary operations are now performed, and amputations (except as a result of artillery fire) are hardly ever required

In view of the unsanitary state of the Spanish hospital, and the, perhaps excessive, conservative attitude of the surgeons, the results obtained are certainly very remarkable, and show what, despite adverse conditions, we may expect from an aseptic bullet rest and antiseptic treatment These results are, on the whole, better than those obtained on our own side, and the reason must be the necessary and often rough transport to which our wounded were subjected, first from the front to the field hospital then from the hospital to the sea shore, from the beach to the hospital ship, and so on, until they reached their final home destination

• SOCIETY PROCEEDINGS

Association of American Medical Colleges

Secretary's Office 101 E 40th St Chicago
November 2[illegible] 18[illegible]

The Association has published its proceedings and already distributed them, six copies to each college holding membership one copy to every other medical college in the United States and Canada two copies to every State board of health and a bound copy to every medical library or [illegible] library in the world Additional copies will be mailed to proper officers and persons on request

---

[1] O[illegible] de th[illegible] report [illegible]

The Judicial Council has recommended to membership the University of North Carolina, and the Medical Department of Kentucky University

The Secretary has written a large number of medical men requesting co operation in bringing the action of the American Medical Association, in relation to the four years' course, to the notice of local societies with which they are connected Many encouraging replies have been received

A large number of three year schools have signified their intention to make their course conform to the requirements of the Association at their next commencement Some schools, however, persist in maintaining a shorter course in spite of the action of the American Medical Association and the rulings of various State Boards of Medical Examiners

The Secretary has prepared a very complete bibliography of the Association, which will be published in January

The following rulings of the Judicial Council are of such importance that they are published herewith

Jefferson Medical College—Dean's Office,
Philadelphia, Pa , Nov 10, 1898

Dudley S Reynolds, M D , Chairman Judicial Council Association of American Medical Colleges

Dear Sir —I beg to present to the Council a case for their judgment In our annual circular the attached paragraph appears

TO ADVANCED STANDING

College graduates in Arts or Science who during their college course have devoted the stated number of hours to the study of the following branches or their equivalents—General Biology 90 hours Mammalian Anatomy 144 hours Chemistry, 216 hours Physics 72 hours Histology 72 hours Human Anatomy 144 hours Physiology 48 hours Zoology 96 hours, Embryology, 72 hours—are admitted to the second year without an entrance examination During this first year they must take Materia Medica and Pharmacy (including the laboratory work), and at the end of the year be examined in them At the end of the second year they must also have completed the dissection of the entire human body and be examined in the entire *subjects of Anatomy and Physiology* They have the option of taking first year Anatomy and Physiology at the end of their first year in this Institution and their second year Anatomy and Physiology at the end of their second year There will be no charge for dissections in their second year

A student has applied to us for advanced standing to our fourth year graduating class, with the following history He was for two years in the *medical preparatory* department of the Ohio *State* University, and did work in excess of that required in the above paragraph This work was considered by the Ohio *Medical* University fully equivalent to their first year and he was advanced to the sophomore year He remained in the Ohio Medical University through the sophomore and junior years, passing all his examinations, and now seeks to become a member of our graduating class

The only point against him is that his medical preparatory course did not lead to any degree, either B S or M D At the Denver meeting the following amendment was adopted "A college not giving the whole four courses of the medical curriculum and not graduating students but otherwise eligible, may be admitted to membership " This recognizes the value of *work done* in a systematic college course apart from the degree We have been asked to recognize the systematic work done by students in the Ohio State University and the West Virginia State University while taking the medical preparatory course We find that certain colleges, members of the Association who have informed themselves as to the nature of this medical preparatory work, have advanced the ' medical preparatory" student one year in his medical course for the two years of the medical preparatory They say that the students are well instructed, and assert their belief in the propriety of their action in spite of the fact that the "medical preparatory" course does not lead to the degree A B , B S or M D I ask your ruling on the question Is it permissible to recognize the two years of *medical preparatory* work in certain universities as equivalent in time to the first year of the medical curriculum? An early answer will greatly oblige

Yours very respectfully,
[Signed] J W Holland, Dean

Louisville, Ky , Nov 16 1898

Dear Doctor —Please read carefully the enclosed copy of Professor Holland's letter, and the accompanying opinion If the latter meets your approval, please to sign it and return it to me as soon as possible If not, please prepare an opinion in accordance with your judgment, on a separate sheet of paper, and forward it to me as soon as possible

Very truly yours,
[Signed] Dudley S Reynolds, Chairman

(Exact copy of original sent to each member of the Council)

ANSWER TO THE LETTER OF PROF JAMES W HOLLAND, M D , DEAN OF THE JEFFERSON MEDICAL COLLEGE, PHILADELPHIA, PA , OF NOV 10, 1898

It is the opinion of the Council that, the Constitution of the Association of American Medical Colleges does not contemplate all the circumstances which may arise in relation to claims for advanced standing, based on previous collegiate training received in regular and systematic order

Section 4 of Article III, of the Constitution authorizes the Jefferson Medical College to recognize the credentials issued by the Ohio Medical University The student referred to by Professor Holland seems to have complied sufficiently with the requirements of the Constitution to entitle him to the advanced standing accorded him, provided it can be shown he possessed the preliminary education exacted in Sections 1 and 2 of Article III of the Constitution

The Council does not presume to say what recognition should be given to the work done by students in the Ohio State University, nor the West Virginia State University, in their preparatory medical courses Deans must be allowed some discretion in individual cases not specifically provided for in our Constitution

It is the opinion of the Council, that it is permissible to recognize the two years of medical preparatory work in certain universities as equivalent in time to the first year of the medical curriculum, provided, however, that the applicant exhibits the required preliminary education and passes the standard intermediate examination for admission to the second year course

[Signed] Dudley S Reynolds,
Starling Loving
Rudolph Winslow,
Albert R Baker,
James H Etheridge,
John B Roberts,
Victor C Vaughan (failed to report)

Hiram Christopher, M D , Dean, St Joseph, Mo

Dear Doctor —Your letter of October 29, addressed to Prof Bayard Holmes of Chicago, has been referred to me for definite answer

The Association of American Medical Colleges, as you know, was permanently organized at Washington in 1891 in accordance with resolutions adopted by a convention of medical teachers at Nashville, in May, 1890 At the time of the first organization, the Association pledged itself to observe certain requirements, including three courses of graded instruction of not less than six months each in three separate years of all candidates for the degree of Doctor of Medicine In 1894 the Association adopted, to take effect in 1899, and thereafter, four courses of not less than six months each, in four separate years This action has been so widely published that it could not have escaped the attention of any person in the regular profession of medicine

In annual session, at Detroit in 1892, the American Medical Association *resolved unanimously to demand of all colleges* in the United States, the adoption and observance of a standard of requirement which should in no case fall below the minimum standards of the Association of American Medical Colleges In June, 1898, at Denver, after mature consideration, the American Medical Association adopted an ordinance making good its demand of 1892 by amending Article IX of the By Laws by defining in definite language certain conditions, which shall hereafter exclude from representation in that body

From your language to Professor Holmes it is clear you are familiar with that action There is no probability of any person familiar with the Constitution, the By Laws and the Ordinances of the American Medical Association, being persuaded that the action at Denver was in any sense irregular *or in conflict* with the Constitution In the second Article of the Constitution of the American Medical Association, under the heading of ' Permanent Members," it is specified that, compliance with the By Laws of the Association shall be exacted At page 15, Article IX of the By Laws contains a statement of conditions excluding representation The action at Denver merely extends these conditions to include conduct, of which no one at that time, nor have they yet at this time been guilty

If, with the warning of that action before you, you feel able to defy the action of the American Medical Assocation, I am sure you will not find fault with the College Association, nor with the AMERICAN MEDICAL ASSOCIATION, both of which are limited in the application of their rules and regulations to their own membership.

I should not like to see your institution assume this defiant attitude, and I trust you will recede before it is too late. Trusting you may see the advantages to accrue to your school in adopting the minimum standard of requirements of both the College Association and the AMERICAN MEDICAL ASSOCIATION, and that you will be spared the humiliation of being denied recognition by the only organized body of the profession authorized to speak with authority in the United States, I am, very respectfully, your obedient servant,

[Signed] DUDLEY S. REYNOLDS, Chairman.

LOUISVILLE, KY., Nov. 10, 1898.

PROF. JOHN ROGERS, JR., New York, N. Y.

Dear Sir:—Your communication of October 29, addressed to Prof. Bayard Holmes of Chicago, has been referred to me for definite reply.

The Association of American Medical Colleges adopted, in 1894, an amendment to Article III of the Constitution, providing that all candidates for the degree of Doctor of Medicine in 1899 and thereafter, shall have attended four courses of instruction, of not less than six months each, in four separate years. This has been widely published in the medical press and it has been the subject of judicial determination on several occasions, the Council holding that the language, "in 1899 and thereafter," must be construed to mean from Jan. 1, 1899. With this interpretation repeatedly published, and unanimously confirmed by the vote of the College Association in annual assembly, the AMERICAN MEDICAL ASSOCIATION last June, at Denver, unanimously resolved to support it and deny recognition to any person concerned in preparing students for the degree, as well as those receiving such degree, after Jan. 1, 1899, on conditions below the requirements of our Association.

On examining your announcement for 1898-99, I find at page 18, your college proposes to graduate the class of 1899 on three courses. I very much regret that you have lowered the standard of requirements, and that your institution proposes to await the operation of the statutory requirements of the State of New York. I am sure that your institution would gain greatly by adopting our minimum standard of requirements, and I trust that it is not too late for you to recede from the unfortunate position which you have taken, as you say, 'for the benefit of a few men who registered with the old University of the City of New York." We could not admit to membership an institution that openly proposes to violate our minimum standard of requirement. Trusting you may be able to correct this, and that I may yet have the pleasure of recommending your institution for membership in the Association, I am, very respectfully yours,

[Signed] DUDLEY S. REYNOLDS, Chairman.

Chicago Society of Internal Medicine

Meeting of Nov. 22, 1898.

Dr. JOHN A. ROBISON, president of the society, occupied the chair.

Dr. HENRY F. LEWIS read a paper on

MUSICAL HEART MURMURS.

He said in part: Musical murmurs heard over some parts of the heart's area, in various abnormal cardiac conditions, are not uncommon phenomena. They are often due to aberrant tendinous cords stretched across the cavity of the ventricle in such manner that they are tightened by the movements of the ventricular walls and caused to vibrate by the of the current of blood rushing against them. In order that such a cord shall act like a harp string and give forth a musical vibration, it is necessary that it lie directly in the course of the stream of blood, and that there be a vigorous action of the ventricle. The musical murmur in these instances is commonly accompanied by a vibratory thrill. In a recent article in the *Philadelphia Medical Journal* the author considers somewhat at length the influence of aberrant tendinous cords upon the production of these musical murmurs. While cases are not uncommon where such cords are found in other cavities of the heart, he believes only one has been recorded where a musical murmur was produced by a cord stretched across any chamber other than the left ventricle. It is necessary also that the cord be across the aorta or upper third of the ventricle, otherwise no musical sound is produced. Eichhorst states that a musical bruit may be caused by a congenital aberrant cord running from the ventricle to the aortic wall.

Disease of the aortic valve or its neighborhood is a frequent cause of musical murmurs. Many times the sound is loud enough to be audible at a distance from the chest, even enough to disturb the patient himself. Very loud murmurs usually mean aortic disease. McAldowie reports a case where the sound was easily heard several feet away from the patient. The autopsy revealed a lacerated flap from the degenerated wall of one of the sinuses of Valsalva, which in life probably projected into the blood stream and gave rise to the systolic "cooing" sound observed clinically. In the case of tendinous cords across the upper part of the ventricle there may be in addition to the systolic bruit or without it a diastolic musical murmur caused by the regurgitant stream coming back into the ventricle. In relative insufficiency of the aorta there may be dilatation of the ascending portion of the vessel which can cause a musical note heard with diastole.

Huchard maintains that aortic regurgitation due to arteriosclerosis is more commonly accompanied by musical, rough or whistling murmurs than is that lesion due to other causes. Arteriosclerosis is the most frequent cause of aortic stenosis and the murmur with that lesion is often whistling or otherwise of a musical character. While musical sounds are oftenest heard in the aortic region and due to lesion of the corresponding valve, yet sometimes mitral disease may be the causative factor. In mitral stenosis such a murmur may exist with diastole or modifying the presystolic bruit characteristic of that disease. Cases are not unknown where a distinct or even very loud musical sound existed for some time and then disappeared. Such might be caused by vegetations on the aortic valve, which were finally swept away by the blood. Musical murmurs heard in the cardiac region may owe their origin to extracardiac causes. Catarrh of the bronchioles of the adjacent parts of the lung, especially the lingual appendix, may give rise to a musical sound from the beating of the heart next to it. A metallic tinkle may come from the cardiac movements setting up a vibration of the walls of the chest.

Dr. LEWIS reported a case of heart disease characterized by a musical murmur heard about the apex and at the end of diastole. He had made the diagnosis of mitral stenosis.

Mrs. G., aged 45 years, married, never pregnant, native of Ireland, had an attack of acute articular rheumatism fifteen years ago. These attacks recurred from time to time for two years, and then disappeared until two years ago. At this time she had an attack of cardiac failure somewhat similar to the recent one for which he treated her. There was great bodily weakness, feeble pulse, marked dyspnea, orthopnea and obstinate vomiting. She went to a hospital and lay in a state of coma for three weeks. Then consciousness returned and anasarca supervened to a marked degree. At the end of six weeks she left the hospital much improved. Since then she has suffered great dyspnea on exertion, but has managed to do her housework until the present illness came on. Several weeks before his first visit she was seized with constant dyspnea, inability to recline, anorexia and obstinate vomiting, rejecting everything from the stomach for five days before he saw her. His first notes are dated March 21, 1898. He found her half reclining in bed, gasping, with a shallow respiration at a rate of over forty to the minute. The pulse was so weak and irregular that it could not be counted at the wrist. There was much cyanosis and jaundice with considerable emaciation. There was very little edema at that time, but it increased later. The hands and feet were cold and clammy; she sweat profusely from the exertion of whispering; complained of great pain in a small area in the lumbar back. In short, he found her moribund and advised sending for a priest. The heart beat at the apex was very irregular in time and intensity, counting about 150 per minute. The rapidity of pulse, as well as the rapid and noisy breathing, obscured the auscultation, but he was able to make out a not very loud systolic murmur at the apex. Her condition forbade an extended examination and he made a provisional diagnosis of mitral insufficiency with muscular degeneration and passive congestion of the abdominal viscera. The scanty urine was of high color, specific gravity 1025, showed little bile pigment and a trace of albumin. In the sediment were hyaline and granular casts stained yellow, a few leucocytes and renal and cystic epithelial cells. He prescribed digitalin (gr. $\frac{1}{100}$) every four hours and a diet of liquid peptonoids. Two days later there was little change, except that the pulse was a trifle stronger and the respirations less difficult and rapid. She had been able to retain half an ounce of the peptonoids every two hours, but nothing else, not even water. He replaced digitalin by strophanthus and aromatic spirits of ammonia. Three days more found her pulse reduced to 70, without intermission, but not regular in force. All the symptoms steadily ameliorated. She was able gradually to add peptonized milk, eggs and other light food in the course of a few weeks. Moderate edema of the legs came on. He prescribed time three such men, two of them six feet in height, one weighing 300 pounds, one 280, and a third, five feet eight inches in height, who weighed a few years ago 268 pounds Dr Purdy has told us that in cases of glycosuria the thing to do is to get the patients to gain flesh, and I want to ask the Doctor if he would want these men to put on any more flesh? I do not ask him this question in a spirit of fun One of these patients in the last six weeks, under treatment, has decreased in weight from 268 to 252 pounds, and I was under the impression that this was a good sign and encouraged loss of flesh This loss of flesh may be due to his restricted diet, but he had an extra good appetite, drank large quantities of water previous to treatment and was getting up every two hours at night for the purpose of urinating, and sometimes every hour Under a restricted diet he has been able to go all night without passing any urine The quantity of glycosuria was eight grains to the ounce when treatment was commenced, at the end of three weeks, he was without any sugar in his urine, and this continued for three weeks, when the condition again returned, so that last week the quantity of glycosuria was four grains to the ounce It has been a question in my mind whether this fleshy man would not be better off if he lost a good deal of flesh The same may be said of the other cases I am positive that these men are in a safer condition with diabetes than lean men would be with the disease I believe most of you would rather treat a fat diabetic than a lean one It has struck me that there is some difference in the cause of diabetes in different cases, and if there is, we can not treat all patients alike It has been suggested that the liver may sometimes be the cause of it In several cases where postmortem examinations have been made, disease of the pancreas has been found, I think in about one third of the cases Other organs have been found diseased in some cases If the etiology is different our treatment ought to be different

Dr JAMES B HERRICK—Dr Hollister really made the few remarks that I intended to make He touched upon a very important point, andthat was the fact that our patients who were dieting acquired a certain tolerance for carbohydrates And I would call attention to the way in which Van Noorden puts it in the classic article which he has written on this subject, and which Dr Purdy has so highly commended He states that improvement in the mild or moderately severe cases is not brought about by exercise of the cells, but by rest of the cells By the withdrawal of the carbohydrates for a time the cells that have been surfeited with too much carbohydrates, too much sugar, are given a period of rest, and they are enabled to acquire tone, so that they then become tolerant of foods that they before rejected The comparison is not inapt between the condition of these cells and the muscles of a heart that has given out Where the heart muscle is extremely weak, the heart perhaps dilated, we know it is only by keeping the patient quiet in bed, in the recumbent position that the heart muscle is enabled to recover its tone Then when the muscle tone has been recovered the heart will permit movements of the body or physical exertion, as for example ascending the stairs, which before it would not tolerate In the same way the cells, according to Noorden's theory, reacquire their tone and utilize carbohydrates they before rejected Some of the older practitioners have, in the course of their experience, gotten on to some of the same facts that Noorden has so tersely, neatly and systematically stated As Dr Hollister tells us, he learned this fact of tolerance and the value of fats from his experience And ten years ago one of our honored physicians taught me that cod liver oil was a good remedy to give to patients with diabetes I remember at that time having put a patient upon a strict diabetic diet, the sugar lessened, but the woman also grew weak and was losing flesh I said to the late Dr C W Earle, 'What can I do for this woman?" and he replied "Give her cod liver oil and cream, of course" I did, and she improved very much and is living today Dr Earle had somewhere learned the value of fats, and he gave to many of his patients who were affected with this disease large amounts of cod liver oil and fats I do not want to inflict the diabetic bread question upon the society, but I should like to ask Dr Purdy whether, in his experience, any of the so called diabetic breads are really reliable and are to be advocated Several authors, e g, Williamson, Naunyn, Noorden, and others speak of them as frauds I should therefore like to know what has been Dr Purdy's experience with these breads

Dr EDWARD F WELLS—The author of the paper should be congratulated upon having presented a contribution of exceptional value upon a subject which is of great practical importance and extremely interesting The paper bristles with points of great practical importance One of the first of these is the statement that the disease is in many cases, especially in elderly people, a controllable one Another is that skill and time are required in the management of cases of diabetes Now, there can be no doubt that a patient with diabetes will fare much better in the hands of one physician of moderate ability than he will at the hands of many physicians of the greatest reputation, that is, going in turn from one to the other If a diabetic patient can be kept in the hands of one physician week after week, month after month, and year after year for many years, his condition may be greatly improved and his life indefinitely prolonged In order to do this, however, he must have confidence in his physician There is only one way to obtain and retain the confidence of a diabetic patient, and that is to treat him fairly and truthfully, take him into your confidence and perhaps a partial partnership in the management of his case, and it is well to state to him as early as possible, exactly and in some detail, what he can and what he can not expect Many of these cases can be improved only to a certain extent, the sugar diminishes to a mere trace, but can not be entirely done away with The thirst declines, and the amount of urine passed approximates the normal, yet, with every care and management, these patients do not get beyond this point, they are made worse if they are not very careful, with them the limit of improvement has been reached It is extremely discouraging to such a patient, if he has been led to expect that he can be radically, or completely cured, to find that he can be improved to this extent, but no further It is, therefore the height of folly to promise too much, but for the legitimate encouragement of the patient he should be informed, approximately, to what extent he can probably be benefited The best thing for the patient, then, to repeat, is to tell him as early as possible just how far he can be improved and, if you know, why he can not go beyond a certain point I am sure that the proper appreciation of those points will be of the greatest benefit to diabetic patients I have had under my care for several months a patient who was troubled with great frequency of micturition, without much urine being passed, only about fifty ounces during the day, and the amount of sugar being reduced to a mere trace For the relief of the frequent voidance of urine, sulphonal was given in doses of two and a half grains, three times a day The sulphonal was continued for a long time without my knowledge, during which the patient improved very much The urine was examined frequently, and starchy foods were gradually added, so that the amount of these which the patient was able to take during this period was much greater than before Upon discontinuing the sulphonal, the sugar soon considerably increased in amount, so that a return to a more restricted diet was necessary The question arose in my mind whether the sulphonal had anything to do with the temporary improvement in this case Another question I would like to ask the essayist is whether he has noticed any relation between tapeworm and diabetes Two of my patients, one seen several years ago, and one now under observation, happen to be troubled with both tapeworm and diabetes

Dr PURDY (closing the discussion)—With regard to the use of carbohydrate foods in diabetes, I think a great deal of damage is done by using them too freely without carefully watching the results upon the urine It is quite a fad in cases where the stomach rebels against proteid foods, to return temporarily to the carbohydrates, but I think we can do better by simply reducing the quantity of food In other words, I believe in strictly dieting these cases If diets are of any use at all, let us follow them carefully, scientifically and accurately I quite agree with Dr Davis that patients should have all the carbohydrate foods they can assimilate and use, but no more, unless they can tolerate a great deal If they can take 300 grams of carbohydrates and assimilate 200 grams I would give them a moderate amount of carbohydrate food But we should follow carefully every gram given by observing the urine for twenty four hours, noticing what amount of carbohydrates has gone astray, and what amount has been used I make these remarks because one of the most recent authors upon this subject, Williamson, makes the statement that the more severe the case of diabetes, the more liberal he is with diet I would recommend exactly the reverse of it and would say that the more severe the case, the more strictly would I diet it With reference to the remarks of the Doctor who spoke of building up the body weight of the patient, 300 or 280 pounds is an excessive weight for a man even six feet high Speaking generally, there is no question but what the higher we maintain the weight of the patient the milder the disease will run Any physician who has had much experience with these cases must have seen cases where the patients maintained good body weight and practically assimilated large quantities of carbohydrates, but the moment such patients lose their weight, especially if they become spare, it is an unequal fight to the end that they will lose it Take a man and reduce him to 130 pounds and his case will go from bad to worse If he can maintain his weight up to 170 or 180 pounds, he will go along favorably under proper regulation of diet other conditions being equal, and his case will progress altogether differently

With regard to breads, I look upon them as humbugs, nearly every one of them I think they have killed more diabetics than any other one thing I have in my book gone over this question and pointed out the quantities of starch in the so called group of diabetic breads manufactured in this country The bread made in this city by Mr Jerome, and to which Dr Davis called attention at a meeting of the Chicago Medical Society about a year ago, is absolutely free from starch But like all diabetic breads, so called, it contains a small amount of sugar I have used it, and consider it the best substitute for the bread I have used It is necessary to warn the patient in using this bread that he can not use it like ordinary bread He must not use over half the amount of ordinary bread, if he does, it will act just like so much more proteid food

I wish to correct the impression conveyed by Dr Wells in his remarks that diabetes is curable I did not intend to convey the impression that it is ever curable What I did say in my paper was, that diabetics beyond middle age, fairly well preserved, if they die of the disease it is either their fault or that of their physician, that this disease can be kept under control by a proper system of diet But I believe once a patient is diabetic, he is always diabetic in the sense that he can not return to the use of carbohydrate foods *ad libitum* I have seen cases, however, where glycosuria was brought about temporarily by the excessive ingestion of carbohydrates, which, when cut off, would cause the glycosuria to disappear Replying to the question of Dr Wells, I have had no experience with diabetics in connection with tapeworm I have had no experience with sulphonal or cod liver oil in the treatment of diabetes In fact, I have little faith in the specific action of drugs in this disease

Chicago Medical Society

Joint Meeting of the Chicago Medical Examiners' Association and this Society, held Nov 16, 1898

Dr James H Stowell occupied the chair

Dr Nicholas Senn addressed the Society on the

SURGICAL DISEASES OF THE LATE SPANISH AMERICAN WAR, WITH A VIEW OF ESTIMATING THE WAR RISK OF LIFE INSURANCE COMPANIES

He said that the late war had been characterized by decisiveness and by intense patriotism on the part of the troops, while he had reason to believe that the opposite mental conditions prevailed in the Spanish camps The American troops had to deal with an impoverished half starved, discouraged enemy, which he thinks accounted for the easy victories and short duration of the war He attributes the repeated victories on land and sea more to the soldiers than to any special military genius displayed by any of the commanders Speaking from a surgical standpoint, he made the statement that the loss of life on the battlefield or as the immediate or remote effects of wounds did not exceed 400 The loss in battle in Cuba was 267 A number of the most seriously wounded have died since In Porto Rico, where there were four skirmishes, the number killed did not exceed 20, and the number of wounded was about 40 The Spaniards were armed with Mauser rifles exclusively He had abundant opportunity to compare the injuries inflicted with the Krag Jorgensen rifle and the Mauser rifle, and the wounds differed very little If any, the Mauser rifle was a more humane one, owing to the smaller caliber of the missile The stopping power of these guns had been over estimated as every hunter of large experience knows In examining from 1200 to 1300 of the wounded he was astonished at the limited zone of contusion of the soft parts, which explains very satisfactorily the readiness with which these wounds healed, provided no infection occurred There is a zone of comminution from both weapons at a range of about 500 yards He found two cases among the Spanish prisoners, shot with Krag Jorgensen rifle gunshot wounds of the femur at the junction of the lower with the middle third in both instances infection had occurred The patient suffered from progressive sepsis, amputation was indicated and promptly performed in a most primitive way outside of the Spanish column in the hot broiling sun, there being no way of effecting disinfection of the dressings, instruments etc, except with a kettle of questionable cleanliness Heat was resorted to exclusively in effecting sterilization At a certain range he is satisfied that both of the bullets from these rifles will inflict injuries to the long bones and produce more or less comminution In one instance a young soldier was shot through the tibia two inches above the ankle joint with a Krag Jorgensen rifle, and the hole through the bone resembled very much one made with an ordinary drill The shot was fired at a range of 1000 yards, but there was no comminution whatever He referred to the value of the first aid dressing In Cuba the military surgeons were hampered in their work by lack of dressing material, also imperfect ambulance facilities Then too, it must be remembered that in Cuba hundreds were wounded and nearly 300 killed in three days consequently the medical department was taxed to its utmost capacity in taking care of the wounded with the limited facilities at their command In this war with an insufficient number of medical officers at the front, as shown at the time, men occasionally had to wait for hours, and in a number of instances more than a day, before they were picked up and the first dressing applied It was in those cases that suppuration most frequently occurred In Porto Rico it was different General Miles, who had command of the invading army, took every precaution to look to the welfare and the efficiency of the medical service He felt the need of a medical adviser and often consulted him The reverse was the case in Cuba In Porto Rico affairs were conducted near the fighting line The ambulance corps was in readiness and ambulances were to be had in abundance The moment a man was shot he was carried to the rear and a first aid dressing always on hand was properly applied and of about forty cases of all the wounded brought back from Porto Rico on the hospital ship *Relief* there were only two cases of suppuration, a remarkably small percentage proving conclusively the value of a timely, efficient first aid dressing in preventing wound infection

He made interesting observations in studying the wounded in Cuba with reference to the sources of infection In examining over 1000 cases, he became fully satisfied that the small caliber bullet seldom, if ever, carries with it pieces of clothing or any other infectious substance The bullet itself is practically aseptic, as he had abundant opportunity to observe In the majority of cases where wound infection occurred, he attributes it to the subsequent too frequent change of dressings and unjustifiable attempts to probe the track of the bullet He had placed himself on record before going to Cuba, that he considers it unjustifiable, certainly unscientific, to resort on the battlefield or in military hospitals to the probe as an instrument of diagnosis

He has seen a number of cases of gunshot wounds of the abdomen recover without laparatomy He believes he was the first one to place himself on record, years ago, that a man shot through the abdomen from before backward on a level with the umbilicus or above, has a fair chance of recovery without operative interference It is in those cases that the intestinal canal not infrequently escapes injury In four out of sixteen experiments made for the special purpose careful subsequent examination of the contents of the abdomen showed absence of visceral lesions which would have demanded a laparotomy These are the cases that recovered during the late war In almost every instance the bullet wound was on a level or above the umbilicus The reverse was the case when the bullet traversed the abdominal wall below the umbilical level, and particularly if it passed through the abdomen transversely or obliquely

There is one part of the surgical treatment of the wounded which he very much regrets was imperfectly performed Praise should be given where it is deserved, and criticism bestowed where it is called for He refers to the want of early immobilization of fractured limbs At the front he could find no plaster of Paris, which should always accompany a fighting army At Siboney he was furnished with plaster of Paris but it would not set Plaster of Paris dressings, therefore the sheet anchor of the military surgeon in the treatment of compound fractures, were lacking or imperfect Surgeons had to do the next best thing—search for splint material and fortunately in Cuba nature was very kind to the military surgeon in this respect The supply of wire splints was limited it would not go one half the distance but the cocoa palm did the rest He found in the sheath of the cocoa palm leaf a most excellent material, in that it is somewhat plastic porous and was utilized to great advantage in the immobilization of gunshot fractures

In contrast to the experience in the Civil War he found in the Spanish American War that penetrating gunshot wounds of the knee joint of the hip joint and of the larger joints recovered promptly, never proved fatal in the absence of [illegible] complications The men recovered as a rule with useful joints

When he came to Montauk where he was on duty for four weeks he had an excellent opportunity to study the condition of the returned soldiers of which there has been so much said particularly in the ‘yellow press At this camp he did [illegible] gery of a peculiar kind, and his experience there perhaps would be of more value to life insurance companies and their medical examiners than what he had said in reference to gunshot wounds. When the army of Cuba returned, it was an army of patients, not of soldiers. They were all anemic, emaciated, and, with few exceptions, brought with them, as an undesirable inheritance, malarial intoxication. In almost every instance physical examination showed enlargement of the spleen. As the result of infective substances in the gastro intestinal canal, he met at Montauk with numerous instances of surgical affections directly traceable to intestinal infection. He found a number of instances of enormous ischiorectal abscess, anal fistula, hemorrhoids, ulceration of the rectum, varicocele and hernia. He attributes the prevalence of peri anal and para rectal suppurative processes to antecedent attacks of catarrhal proctitis, from which almost every one of the soldiers suffered at one time or another. It was at Montauk where he believes he was of most service to the troops, being placed in charge of the surgical department of an enormous National camp filled with thousands of sick soldiers. He is positive, as far as the Illinois troops are concerned, that not a single private was sent to the front with hernia. Exceptions were made in the case of officers. Speaking of privates, the examination of them was so rigid that he was sure not a single hernia escaped attention, and yet some of the men are coming back with hernias. He was astonished at Montauk at the number of cases of hernia that the soldiers claimed to have contracted during their short service. What is the cause? The fact remains, that the men were never exposed to forced marches; the longest march in Cuba was from Siboney to the front at Santiago, a distance of nine miles. He attributes the prevalence of hernia in the returning soldiers to the debilitating effects of the campaign and of disease, to the relaxing influence of the climate, to the disappearance of fat in the region of the inguinal canal. In the near future many of the mustered out men will apply for pensions for the defect he has just mentioned. In an examination of ten thousand men at Camp Tanner, he found varicocele with great frequency in men of military age, as from 18 to 45 years. At least 25 per cent of the applicants for military service were affected with varicocele. In not more than two hundred out of the ten thousand did the enthusiastic and ambitious recruits acknowledge that they experienced any inconvenience from this affection. He therefore believed at that time that varicocele of moderate size, without symptoms, should not disqualify an otherwise well built man for military service. He has every reason now to believe that the position he took then was the correct one, judging from his observations of the men that are returning.

Dr. William Cuthbertson read a paper on

THE ENTERIC DISEASES OF THE ARMY CAMP IN THEIR RELATION TO LIFE INSURANCE

He said it was the province of the life insurance examiner not only to pass upon the present condition of the applicant's health, the probability of his dying in a short time from some acute disease but also as to the probable effect on his life expectancy of any disease the applicant might have had. Any thing which may in any way impair the health of an applicant, should be carefully inquired into, and he maintains that camp diarrhea and dysentery are two of the most important of these diseases. The history of all armies operating in all parts of the world shows that camp diarrhea, typhoid fever and dysentery are the most prevalent disorders. They exist to a greater extent, however, in campaigns in very warm or hot countries. The records of our Civil War show that diarrhea and dysentery were more frequent and fatal in the Central region than in the Atlantic and Pacific regions. On the contrary, in civil life, intestinal inflammation is more prevalent in the Northern, Middle and Western States than in the Southern. During the recent Spanish American War, while his regiment—the First Cavalry—was stationed in Illinois, the universal intestinal complaint was constipation, while almost immediately after their arrival at Chickamauga Park, Georgia, diarrhea began. This was so invariably the case that whenever a batch of recruits arrived from home, one would hear a member of the Hospital Corps remark, "There comes more diarrhea." The summer months of June, July and August are those in which the greatest number of cases occur and the mortality is the highest.

The three most important factors in the causation of camp diarrhea, dysentery and typhoid fever are:

1. The effects of excessive or prolonged heat, which tends to weaken or arrest the digestive functions, leaving in the stomach and intestines undigested masses, which act both as irritants and culture grounds for the development of fermentative bacteria. On the other hand, excessive cold chills the surface of the body and congests the blood vessels of the digestive mucosa, thus precipitating a camp diarrhea which soon runs on into a dysentery.
2. The totally changed conditions under which an army is compelled to live when campaigning from that which its members were accustomed to while in permanent barracks, or at home in civil life.
3. To the food and cooking. It is a hard task on the stomach to accustom itself to the rations furnished by the War Department during active service, more especially when that service is performed in a hot climate. His experience with the cooks in the volunteer regiments convinces him that a great deal of the camp diarrhea which existed was due to the careless and improper way in which the food was cooked and prepared.

The character of the water ingested is another cause for these diseases. Water containing inorganic salts in solution is very often purgative. According to Parkes, water which contains three to ten grains of putrescent animal matter may be hurtful. Water found in stagnant pools or marshy places has a slight effect on the intestinal mucous membrane, producing diarrhea. Sudden changes from heat to cold, unripe fruit, alcoholic excesses, are all conducive to these maladies. Finally, in the production of these diseases are numerous bacteria which give rise to putrefactive changes in the intestinal contents where digestion is impaired.

Enteric fever has proved to be the scourge of the late Spanish American War. The greatest mortality did not occur where expected, namely, on a foreign soil, from bullet wounds and yellow fever, but right at home in large camps, where every appointment should have been up to date, with every appliance modern sanitary science could devise. These deplorable results can be directly chargeable to the Medical Department of the regular Army. A wet soil, damp weather, the presence of large quantities of fecal and decomposing matter, and large numbers of men congregated together, furnish a beautiful combination of circumstances for the development of this disease. The presence of hucksters in the camp seemed to be responsible for the spread of typhoid fever in no small degree. The eatables which they hawked from regiment to regiment became infected, and in this way was the disease transmitted. At Camp Thomas, Ga., part of the water supply was taken from the Chickamauga River, the intake pipe being situated only a few yards above the point where one of the large camp drains emptied into the river. The rest of the water supply of this camp was obtained from springs and wells located on different parts of the grounds, which soon became infected from the leakage through the already infected soil. Finally, the men themselves invited an attack of typhoid fever by their mode of living. They slept on the ground, very often four in a tent, the tent poorly ventilated, and very frequently closed up all day. They would do this in spite of all orders and warnings. They would buy food from hucksters, and drink river water, in defiance of all advice to the contrary. He is of the opinion that not only the water, but the soil, and even the air of these large camps were infected with the typhoid bacillus.

He entered into the causation of these diseases rather extensively, in order to show the extreme liability of the soldier to contract some of them, hence his undesirability as an insurance risk.

The average mortality of selected risks—and all the soldiers in the late war could be classified as selected risks—is 4 or 5 per 1000 per annum. The latest returns show the mortality of the American Army to have been 10 per 1000 for a period of six months, or four to five times greater than it should be. These percentages should settle definitely the question of the desirability of the soldier as an insurance risk, in the negative. Our woods and plains teem with good material for soldiers, we have an unlimited number of first-class medical men and sanitarians. We have a generous people, and he was assured that when the army is reorganized it will be put in such a condition that during any future campaigns, the life and health of the soldier will be as well protected as if he were under his own vine and fig tree.

Denver and Arapahoe Medical Society

Nov. 9, 1898.

Dr. Walter Hilliard read a paper before the Society on

THE SIGNIFICANCE OF CERTAIN LESIONS OF THE FUNDUS OCULI

He said in part, that a cursory glance at certain anatomic features of the fundus oculi will suffice to explain its peculiar liability to pathologic changes. Incidentally it may be well to note some similar characteristics of the cerebral cortex in consequence of its embryonic and other important relations to the retina. The cerebral cortex and retina are examples of organs having the so called "end artery system." In these structures the arteries, with some unimportant exceptions, neither communicate with those of other parts nor, indeed, with each other. Even the arterioles may be termed "terminal," each one ending in its own capillaries. Another feature of importance is the capillary network of the retina, which is the finest and closest in the body. Their total area is at least 800 times greater than that of the short posterior ciliaries, from which they arise. In consequence of the law that the velocity of a current in a tube is inversely to its lumen, the velocity of their capillary current must be very many times less than that of the short posterior ciliary artery. The choroid presents another peculiar feature—its vessels are arranged in superimposed layers, progressively diminishing in size from without in. In the profound chronic toxemias produced by such causes as syphilis, chronic albuminuria, alcohol and diabetes, the earliest manifestations of the long series of necrobiotic changes are found in the arterioles and capillaries. A priori we should have anticipated this. Here the blood current is slower than elsewhere, and the blood charged with toxic substances is in contact with the delicate structure of these minute vessels much longer than in the larger arteries and veins. In every study of the degenerations resulting from such chronic dyscrasiæ as just mentioned, one should constantly bear in mind that the necrobioses in the essential structures of the organs occur *after* the vascular lesion, and are largely *due* to them. The ophthalmoscopist heeds not the black luxuriant locks, the beaming countenance, the firm elastic step of youth and manhood's prime, neither does he regard the gray hair, the wrinkled face, the bent form, the unsteady gait of his patient, nor, indeed, the care worn look so characteristic of the old veteran of life's many storms, but in these chronic toxemias his prognosis is based solely upon what he observes in this beautiful little mirror—the fundus oculi.

In syphilis, chronic albuminuria and diabetes the lesions of the fundus oculi may always be regarded as terminal symptoms; the chancre, the bubo, the cutaneous rash are but memories of a distant past, the renal epithelium, the Malpighian bodies, the glomeruli were long since helplessly disorganized; it is a genuine and not evanescent glycosuria that we have to deal with. The presence of these lesions in the fundus oculi in the albuminuria of pregnancy bodes the imminent danger of a long train of disaster to the woman. Not only should her uterus be relieved of its contents, but the woman should be advised never again to become pregnant. The appearance of these necrobiotic lesions in connection with acute infectious disease is highly significant of a concomitant meningitis, especially basic meningitis.

Dr. Wm. C. Bane reported a case of

VISION OF RIGHT EYE DESTROYED BY THE KICK OF A HORSE ON RIGHT SUPRAORBITAL RIDGE AND RIGHT CHEEK.

On September 14, 1897, he was requested by Dr. J. N. Hall to see D. R. D., aged 44 years, occupation, stone mason. The patient gave the following history: Five days previous he was pitched from a buggy, fell near the horse, and was kicked in the face. For eleven hours he was unconscious. On the second day he discovered that he had bare light perception with his right eye. Examination revealed a lacerated wound, one inch and a half in length, extending to the bone, immediately over the supraorbital ridge. The tissues covering the right malar bone were swollen and discolored. There were also some irregular cuts in the right upper lip. There was slight ecchymosis in the tissue of the lower outer quadrant of both eyes. Action of external ocular muscles was normal. He had no light perception with the right eye. V. L. eye = 6/6. Field for white, normal. Pupils were equal. The papillary reflex of the right eye was absent. The associate reflex of the right with the left eye was normal. The media were clear and the fundi normal, there being no change in the discs or vessels. Prognosis as to vision of the right eye was unpromising. Hearing: Right ear = watch in firm contact. L. ear = not in contact. Patient stated that he had not been able to hear the watch on contact with his left ear for ten years. He was able to hear the voice at the ordinary pitch with either ear. On Nov. 9, 1898, R. E., no light perception. Blue white atrophy of the right disc, absence of capillary vessels and slight narrowing of the retinal arteries. L. E. V. = 6/6. Disc, normal. At the time of the accident there evidently occurred fracture of the orbit or bony canal through which the right optic nerve passed, and with it loss of function of the right optic nerve either from laceration of the nerve, or hemorrhage into its sheath, or both. Dr. Van Hölder has examined 124 cases of fracture of the skull, in 86 of which the fracture extended into the orbital roof. In 63 of the 86, the fracture was through the canal, always through the upper plate, occasionally through the inner, or both. In 42 cases there was hemorrhage into the sheath of the nerve.

French Congress of Gynecology, Obstetrics and Pediatry.

Marseilles, Oct. 8-10, 1898.

Pozzi extolled the benefits of scientific congresses in which he is an enthusiastic believer, although, he observed, the best results, the real scientific gatherings of the congress, sometimes occur in the intervals between the regular meetings. He compared a congress to a bottle that has just been shaken up. Leave it alone a while, the sediment will settle and the wine can be decanted. What matter if there are occasionally dregs as long as there is so much liquor above that is worth preserving! He mentioned that France alone has no chair of gynecology or infant surgery, while even Roumania now has a model, endowed gynecologic institute. He advocated the introduction of postgraduate courses into the French universities.

President Pinard called attention in his opening address to the necessity of specific treatment of syphilitic parents, and the frequency of degeneracy among the children of parents addicted to alcohol.

Le Gendre's address on "Dyspepsia in Boarding Schools," stated that in spite of modern hygiene, dyspepsia is more frequent among children now than it used to be in our father's day, and seems to have a nervous or neurasthenic heredity as the foundation, and gastro intestinal disturbances as the manifestation, frequently presenting misleading symptoms. He noted the connection between this dyspepsia and appendicitis later. He advised better hygienic arrangements, notwithstanding the wonders already accomplished: no sport carried to extremes; the time devoted to meals lengthened; reiterated counsel as to mastication; more milk and eggs in the diet; less salads, and other green vegetables; beans, peas, etc., in a purée, as the hulls are trying to some intestines. The peculiar dyspepsia due to the ingestion of bread too fresh and spongy *should be carefully guarded against. More important than all* is the co operation of the family with the school. The family physician should write to the school physician and instruct him as to the tendencies of the child placed in his charge.

Perrin discussed the "Purpuras of Childhood," which he classifies as: 1, primary, infective; 2, rheumatic; 3, Werlhof's disease, and numerous secondary infective forms.

Le Gendre would like to abolish purpuras out of the nosology, as it is as illogical to compare them with each other as the headache in neurasthenia and in meningitis. He mentioned a case of purpura in a neurasthenic child that had resisted treatment for three years, cured with absolute rest and protracted baths.

Guinon spoke of

COLITIS IN CHILDREN.

Under three years of age it usually appears as gastro enteritis, but after this age it resembles more the colitis of adults, and has the same foundation: a neuro arthritic predisposition. He classifies it as acute colitis, with its mucous or catarrhal form and the dysenteric and chronic colitis, which may be mucomembraneous, either indolent or enteralgic, or else paroxystic, either simple or dysenteriform. Colitis may be confounded with appendicitis, although there is less localized pain, or with peritonitis, dysentery, typhus or tuberculosis. Complications are also frequent; furunculosis, lithiasis, broncho pneumonia, peritonitis, etc., which obscure the diagnosis. In the chronic form the indications are to combat the neuropathic tendencies with frequent, protracted baths, tepid douches every day; avoidance of fatigue and walking, especially when there is pain. Conform the diet to the predominating diarrhea or constipation. Milk frequently is responsible for the former. Give hot compresses to the abdomen morning and evening. Modify the intestinal putrefactions with calomel, supplemented with benzonaphthol combined with betol and bismuth salicylate or magnesia. The constipation should be kept under control. *Castor oil in small doses is the best* laxative, if one is required. Gentle cautious massage is beneficial. Others reported coinciding appendicitis and colitis treated with water only for twenty four to thirty six hours, then with diluted milk and injections of serum. A case of typhus in a two months old babe was reported in which the serodiagnosis was positive and confirmed by the necropsy.

Hoffa discussed the subject of orthopedics and exhibited radiographs showing the fine results attained with his method of testing clubfoot, congenital luxation of the hip and scoliosis. He treats the latter by first rendering the spine flexible with gymnastics and an apparatus, until the child can himself actively straighten the deformity to some extent. When the spine had thus become mobil[illegible] he ap[illegible] a cast to hold it in the correct position. If [illegible] entirely fol lowed the results are very [illegible] also been successful in Little's d[illegible] removed and an orthopedic apparatus Many children who were in a most deplorable condition are now able to walk and even dance

Ducroquet suspends the child in the Sayre by the head alone, to reduce the hump in scoliosis and apply the cast thus in the walking position He presses on the hump with the right hand while embracing the pelvis with the left arm, forcing it backward He observed that it is a great mistake to expect the cast to compress the body into the correct shape, it is only to maintain what has been otherwise secured Eschars are produced if this rule is neglected

Weill of Lyons discussed

HEART AFFECTIONS IN CHILDHOOD

He said that from the therapeutic standpoint we must distinguish between functional disturbances and those due to congenital or acquired anatomic causes There is no rational treatment for congenital heart troubles, but etiologic factors can be utilized in the prophylaxis, such as the effects of consanguineous marriages, syphilis or rachitis on the part of the mother The preventive is also the principal treatment for acquired heart disturbances, the salicylic preparations at the slightest indications of rheumatism, cold baths in typhoid, antisepsis of the mouth in scarlet fever In case of endopericarditis, which is usually caused by rheumatism under five years, the underlying rheumatism must be cured Compensation is more frequent in childhood than in adult life, and the physician has only to sustain it by appropriate hygiene, muscle gymnastics, food, clothing The treatment of functional disturbances varies as they are congenital or acquired With the congenital there is usually cyanosis and chilliness for which a warm climate is to be recommended The various symptoms are treated symptomatically Digitalis is given as to an adult in the required form, especially with serious asystole, to children over 5 years of age Under this age, caffein, strophanthus, spartein sulphate, or convallaris majalis are to be preferred Combined with this there should be certain gymnastics, massage of the extremities and abdomen, and chief in importance, the vibration of the precordial region and of the back, called in Sweden "digitalis massage "

Bezy reported several cases of hysteria in children, simulating peritonitis

Mouren stated that since he had been using artificial serum in injections for prematurely born infants his mortality had fallen from thirty six to six in his fifty cases in 1898 He injects 100 grams three to four times during the day

D'Artros stated that he had succeeded in curing chronic serous meningitis in children over 2 years old with potassium iodid and mercury, even in the absence of syphilitic antecedents

It was announced that Lannelongue's sclerogenic method of treating inguinal hernia has been applied in sixty two cases with remarkably satisfactory results to date

Mery mentioned as the indications of mixed infection in diphtheria or streptodiphtheria, the abnormally high fever, worse general condition, evidences of septicemia and pyemia, suppurations of the ears, joints, glands, and various forms of hemorrhage Diphtheria serum can be given at first in a large dose, but it is of no use after the association has developed its full effect Antistreptococcus serum can then be used Local antisepsis is especially important, for which Roux recommends hot water and salt solution

EXTRA UTERINE PREGNANCY

was the subject announced for discussion in the Obstetric Section

Segond observed that every extra uterine pregnancy, once diagnosed, demands surgical intervention Under four months, if the other annex is likewise affected or there is a uterine neoplasm, the vaginal route is without exception the one to be preferred, but in all other cases laparotomy is indicated, and the extirpation of the fetal cyst offers few difficulties in most cases The removal of the cyst arrests the hemorrhage if visceral lacerations are avoided An enucleable hematosalpinx indicates laparotomy, but with an encysted hematocele that has stopped bleeding the vaginal route is best The sac must be extirpated with extreme gentleness and prudence If a hemorrhage starts, the operation can conclude with a laparotomy, vaginal hysterectomy or the removal through the vagina of the entire adnexa If the hematocele has periodic hemorrhages, laparotomy is the only operation In case of extensive hemorrhage (peritoneal inundation), the necessity of a laparotomy is evident from the statistics 86 per cent mortality with expectant treatment, 85 per cent recoveries with an operation Over five months with a living fetus, the attempt can be made to save the child, waiting until the seventh month, or, according to Pinard, to the eighth or ninth In such cases the exteriorization of the cyst is sufficient, leaving the expulsion of the placenta to nature If the fetus is dead, it is best to wait until the placental circulation is reduced, then extract the fetus, exteriorize the cyst and abandon the placenta The total extirpation of the cyst can be attempted in cases of tubal pregnancy, if the decortication required is not too laborious, requiring an excessive tamponing of raw surfaces, in which case total utero annex castration is indicated This should be reserved for the cases in which, having commenced the ablation of the fetal cyst, it is found impossible to complete it without overtaxing the strength of the patient The tubo interstitial location of the pregnancy or the existence of a concomitant uterine neoplasm are also indications for total hysterectomy He disapproves of total castration on account of possible future trouble, remarking that the woman may yet bear fine children and that even the little "ectopers" may turn out well, of which he has recently had a striking instance Martin has met with cysts which were too friable to be marsupialized Jonnesco believes that the other annex is almost certain to be affected and that bilateral castration is the only safe plan Leonte of Bucharest advises leaving the pregnancy alone if all is working well, but operating at once in case of suppuration or infection In all cases he extirpates the entire tumor and irrigates copiously with salt solution

Pozzi called attention to the advantages of the lateral incision such as is done for opening up the iliacus, when the tumor is located at one side of the abdomen The fetal cyst can be thus incised without opening the peritoneal cavity He disapproves of listening to the appeals of the woman for castration to protect her from future ectopic pregnancies

Francois related an observation of an intracervical abscess completely obliterating the canal in the sixth month in a primipara

Deriche has had a patient cured of menorrhagia, with the bicycle, others of chronic diarrhea, others, using it more energetically, cured of chronic constipation Recent radiography of some men taking part in a bicycle six day race showed that the viscera had a tendency to assume a more elevated position, which suggests that bicycle exercise might be used to counteract a tendency to abdominal ptosis

Dubourg's conclusions from a comparative study of his forty four hysterectomies for the removal of uterine fibroma or cancer of the cervix, were that the abdominal route is much to be preferred, and that its statistics will be much more favorable when it is no longer reserved for extreme cases, as is the present tendency Two cases of recto vaginal fistula after hysterectomy were reported, and the promptness with which they healed without further intervention emphasized

The value of formochloral in obstetric disinfection was extolled by several

Sedan uses formolized soap for his hands, which kills staphl and streptococci, and for the patient an aqueous solution of formochlorol which is odorless and does not stain the linen For disinfecting the room one liter of formochlorol to 100 cubic meters for eight hours The commercial formaldehyde is absolutely useless, on account of its polymerization

Queirel asserted that the umbilic cord is strong enough to bear 7 to 10 kilos, and that, even with a macerated fetus, it is seldom that the weight of the fetus can break the cord (118 cases)

Richelot treats

RETROVERSIO UTERI

with pessaries and bandages, massage or hysteropexy In simple cases a pessary may prove sufficient, but it is usually a delusion Massage is much better, detaching adherences, relieving congestion and especially valuable in cases complicated with infection The uterus must be healthy, a metritis cured, before surgical intervention should be attempted Abdominal hysteropexy is a fine operation, curing many women and favoring conception The threads must be applied exclusively in the anterior surface of the uterus, below the tubal openings Certain cases are best treated with vaginal hysteropexy, but Martin and Pozzi object that this should only be performed on women past the menopause, adding that this operation is falling into disrepute generally A case of non puerperal osteomalacia treated with ovariotomy was reported The ovaries were found much atrophied, with macroscopic cysts

Mangin has found ligating the uterine arteries a successful measure to control uterine hemorrhage rebellious to all other treatment The only absolute counter indication is a lesion of the annexes

Fochier reported three cases of phlegmasia alba dolens rapidly cured with abscesses produced with spirits of turpentine

Meriel has found pencils of equal parts of methyl salicylate and airol 1 gm very effective in endometritis

Marcel Baudouin proposed a classification of operations on the uterus, based on the decimal system in use in libraries

PRACTICAL NOTES

Calomel Injections in Lupus—Thirty eight cases have been reported cured or very much improved by this treatment, and ten not affected to date —*Munich Med Woch*, November 15

Ichthyol Stains on Linen—Javelle water (potassium hypochlorite) will readily remove ichthyol stains from linen —*Munich Med Woch*, November 8

Aromatic Cod Liver Oil—According to Duquesnel, the odor and taste of cod liver oil can be disguised entirely by the following formula Ol jecoris flav 150 gm, ol eucalyptus ether gtt ii —*Munich Med Woch*, November 15

Trifacial Neuralgia and Migraine—Apply, locally, a tampon moistened with the following sulph ether 50 gm, melissa alcohol 50 gm, menthol 20 gm The pain vanishes with the refrigerating effect produced, and relief is experienced for hours —*Gaz Méd de Liège*, November 13

Gluten Capsules—Bely utilizes the property possessed by gluten, of not being affected by the gastric secretions, to make a capsule of it for the administration of creosote He prefers the formula pure creosote 15 gm, balsam of tolu 05 gm, lime glycerophosphate 05 gm —*Journ de Méd de Paris*, November 13

Trichloracetic Acid in Tympanic Perforations—B Miot reports forty nine successes in fifty one cases of perforation of the tympanum by Okuneff's method of etching the edges of the perforation with trichloracetic acid to induce cicatricial obstruction of the hole If the edges are refractory to the action of the acid, he recommends radial incisions or galvano cauterization to freshen them —*Cbl f Chir*, October 29

Bacteriology of Accidental Wounds—A study of 222 wounds demonstrated that there were only 17 sterile, and that most of the microbes found were clinging to the blood clots Copious rinsing is therefore urgently indicated to remove as many of the germs as possible by its mechanical action Airol or iodoform gauze for an antiseptic tamponade was found most effective in infected wounds, or bismuth oxyiodid —*Cbl f Chir*, October 29

Bacteriologic Investigations in Diphtheria—The process is rendered easier and shorter by Schottelius' suggestion that the cotton stopper to the test tube have a stiff wire loop extending below, to the end of which another piece of cotton is attached With the stopper for a handle the throat is wiped with the cotton on the end of the loop, which is then inserted into the test tube, the stopper closing it, the whole placed in a paper tube closed with a cork, enclosed in an envelope with the address printed on it and sent to the Institute The entire contrivance is supplied by the Freiburg Institute for 25 pfennige

Modern Treatment of Migraine—Most cases of migraine are due to intoxication, auto or exogenous, and the indications are to regulate the organic changes, increase diuresis and diaphoresis Quinin, antipyrin, acetanilid and phenacetin are absolutely contraindicated, as they diminish the organic exchanges Salicylic acid is an exception, but the increase produced at first is followed by a decrease, and it can not be used long at a time The measure which fulfils all conditions is a vapor bath or prolonged pack followed by cold applications, combined with an appropriate diet —Stekel *Rev Gen de Path Int*, November 5

Mechanical Stimulation of the Skin—F Lots describes (*Ztschrft f klin Med*, xxxv, 2) his success in curing or remarkably improving a number of nervous affections with friction with a loofah, of one member at a time, for ten to twenty minutes two or three times a day, the patient in bed, supplemented by running around barefooted on pebble stones spread on a blanket on the floor of the room The pebbles are about 1 cm in diameter and are well rounded The sensation is not disagreeable after the first day or so The feet become warm the appetite and intestinal peristalsis are increased while the general condition improves in every respect His cases included 11 of neurasthenic cephalea, 2 of nervous children with a tendency to chorea, 2 of general nervousness in adults, 3 of intermittent pulse, one case of incipient and one of advanced tabes —*Munich Med Woch*, November 15

Heroin in Coughs—Manges of New York, in the *New York Medical Journal* of November 26, presents his experience with this drug in the treatment of coughs In a few cases he found disagreeable after effects, with the symptoms complained of referred to the sensorium These symptoms were, however, much more mild and far less frequent than after morphin or iodin In the aged, not more than twentieth grain doses are to be given, as they bear the drug poorly The drug allayed coughs promptly and efficaciously in numerous cases, though in some one sixth of a grain was necessary The results were not so good in purely neurotic coughs The only case where no relief was secured was one of dyspeptic asthma, though other asthma cases gave good results The results were not uniform in pulmonary tuberculosis, but were better in the early stages, smaller doses being necessary for later stages

Home Treatment of Chronic Morphinism—Hirt of Breslau has cured twenty seven out of thirty five cases Two committed suicide during the first three days, when the morphin is absolutely denied, the remaining five either relapsed or failed to complete the cure A reliable attendant is indispensable, and he adds that only a female attendant will answer During these first three days the patient is kept asleep with 3 grams of chloral or trional, and a bath at 27 to 28 degrees C with a cold douche, if the sleep is agitated After three or four days a suggestion therapeutic treatment is commenced, first extending only to the drug itself and its dangers, and then including the patient and inspiring him with fear and abhorrence of its effects He only attempts to treat patients whose daily dose is under 0 75 —*Therap Monatshft*, 10

Counter Indications to Breast feeding an Infant—Tuberculosis is an absolute counter indication, with many other diseases the question is not so much the nature as the severity and degree of the affection Anemia is a relative, the different cachexias positive, counter indications The general condition is the guide after an operation has been performed on the mother Local counter indications are affections and malformations of the nipples, which can not be remedied with cocain, artificial nipples, etc Epilepsy, chorea, psychoses, are counter indications on account of the danger of accidents to the child Hereditary syphilis is a formal indication for breast nursing The quantity and quality of the milk may prove counter indications, the milk of certain women has a purgative, toxic effect The passage of toxic medicines and infective germs into the milk must also be borne in mind The child should be isolated when the mother alone has a contagious disease Nursing is permissible in localized puerperal infection, but the lacteal secretion fails in general infection —*Journ de Méd de Paris* Nos 35 and 37

Argil for Dressing Wounds—J Stumpf describes (*Munich Med Woch*, November 15) his surprisingly favorable results obtained with the copious application of dry argil to wounds of all kinds, which heal under it without the slightest reaction Even the suture threads pull out dry without in the least sticking The absorbing power of the clay is most remarkable as evidenced by numerous tests he reports such as wadding a little cotton, very wet with water and defibrinated blood and rolling it around in some clay for fifteen or twenty minutes when it will be found so coated with clay that it is practically a heavy clay ball Broken open the wad of cotton drops out like the kernel of a nut, perfectly dry. All the moisture has been absorbed into the clay shell. He relates a number of instances in which crushed hands, suppurating ulcers, and even ozena, treated with the dry clay first lost all odor and then healed in the most aseptic conditions. He applies it to an "unfingered" wound without further infection, using the ordinary commercial article, heated by the druggist to 150 degrees C. Meat or slices of liver laid in the clay harden rapidly to a brittle, mummified substance.

Technique of Intravenous Injections.—An intravenous injection is almost entirely painless, differing in this respect from the subcutaneous. It works more rapidly and energetically and is especially valuable in severe forms of syphilis. Experience has demonstrated that the fear of embolism and infection were unfounded. Several injections can be made into the same vein. The needle is inserted perpendicularly, then the point turned toward the root of the member, the needle unscrewed to prove by the flow of blood that it is actually in the vein, then the ligature above is unfastened, if one has been tied, to render the vein more distinct. The prick through the skin is all that is felt. The needle is left a moment afterward to allow the injected fluid time to be carried away by the circulation. If the injection is painful, the needle must be in the tissues instead of in the vein. First proposed by Baccelli, Abadie is now introducing the method into France. The formula used is one part mercur cyanat to a hundred parts dist water. One c c is the amount for a single injection. They are made every day or every other day, according to the severity of the case. Fifteen to thirty are usually the limit of treatment required.—*Riforma Méd*, 1898, p 203.

Vaginal Abdominal Section.—Lohlein has found this operation extremely satisfactory in a number of cases (forty two during the last two years). The trauma and the possibility of infection of the peritoneum are very much reduced. The patient feels subjectively well from the first, afterward. The easy and thorough evacuation of all fluids in the peritoneal cavity, and the possibility of combining with it a number of other interventions on the perineum, vagina, etc, recommend this operation. The difficulties liable to be encountered are a narrow or rigid vagina, solid consistency of the morbid products to be evacuated, and impossibility to reduce their size by puncture and detaching parts. A ligature became unfastened in three cases, requiring the application of forceps for thirty six hours. In a number of cases he was obliged to complete the operation with laparotomy, for which reason he advises that the abdomen should always be prepared beforehand as for laparotomy, as well as the vagina. In one case the ovary was removed through the posterior vaginal incision, without interrupting pregnancy. He has been especially successful in peritoneal tuberculosis. The operation was performed once to differentiate carcinoma from tuberculosis.—*St Petersb Med Woch*, October 29.

Avoidance of Splints in Colles' Fracture.—Mr Jonathan Hutchinson has encouraged his house surgeons at the London Hospital to treat cases of Colles' fracture without splints. His instructions were never to put on splints unless there was displacement which could be removed by extension, and which returned when extension ceased. In such cases, a very small proportion only, splints are indicated, but they ought not to be kept on long. If the routine treatment by splints was laid aside it would be greatly to the advantage of patients and to the credit of surgeons. In many cases treated in the orthodox way, the wrist and fingers become stiffened, and the hand often becomes painful and useless. Nineteen twentieths of these cases would have done well and escaped stiffening if the wrist had been kept between two cushion pads for a fortnight. The public, as well as the profession, seemingly think that there is a necessary connection between a fracture and a splint. If one reflects on the real condition present in Colles' fracture, the truth of these remarks will be evident. In many there is no displacement whatever, and no movements of the patient could produce any. In others there is displacement of the carpal fragment backward to the radial side. If this is present, and can be removed by extension, and returns when extension is remitted, then a splint is necessary, but not otherwise.—*Med Rev of Rev*, October.

Intestinal Surgery. Use of Murphy's Button.—Mr Frederick Treaves of the London Hospital has had an experience with Murphy's button in fifty to sixty cases. In his opinion, of the various appliances for uniting the divided bowel, the button is the best, not that it can be regarded as a perfect instrument, but it compares favorably with the other forms of apparatus having the same object. He quotes Chelius to show that a French surgeon named Denans, sixty two years ago, offered a procedure which prefigures the Murphy button, in Denans' procedure he "introduced into the upper and lower end of the divided gut, a silver or zinc ring, thrusting it inwards about two lines from each end, he then brought the two ends together over a third ring, of which the two springs retain the external rings. The included ends of the intestine mortify and the rings thereby becoming unfastened are discharged by stool after they have united the serous surfaces in contact." The results following the use of Murphy's button are certainly satisfactory. The button requires no elaborate preparation, it is always ready, its introduction is exceedingly simple, and is effected in a few minutes. The two parts of the instrument may certainly jam, but that accident is the result of careless handling. He has never known it to induce a grangrene which has extended beyond the limit of the button. The two definite and undoubted objections to the button are these—it may be indefinitely retained, and its separation may be followed by contraction at the artificial opening. In only two cases of gastro enterostomy performed by Mr Treves did the retention cause any trouble. In one case the button did not leave the stomach for a year, and the surgeon did a second operation for its removal, a skiagram having shown very clearly that the button was still in the stomach. As an example of the contraction of the colon that may occur after the use of the button, Mr Treve instances the following case. "A man, aged 61 years, who had had symptoms of chronic intestinal obstruction for some months, was seized with symptoms of acute occlusion of the bowel, attended by immense distension of the abdomen and stercoraceous vomiting. Laparotomy, performed in January, 1897, revealed an epithelioma in the center of the sigmoid flexure. The urgency of the case and the great distention forbade any attempt at excision. I therefore effected an anastomosis, by means of a Murphy's button of the largest size, between the two extreme ends of the sigmoid flexure. The diameter of the button was 1½ in. Fluid feces were passed before the patient left the table and he was at once relieved. The button, which had already been used in two previous cases, was passed on the twenty second day. The patient was walking out of doors at the end of the fourth week. In March, 1897, he had regained his original weight and his bowels were acting well with aperients. I then performed a second laparotomy to remove the sigmoid flexure. Although only thirty eight days had elapsed since the passing of the button I found the artificial opening I had made so contracted that it would do no more than admit my little finger. I removed the whole sigmoid flexure and united the descending colon to the rectum by means of the same button. This button was passed on the sixteenth day. The patient recovered rapidly and remains in sound and vigorous health. This association between previous distention of a viscus and the subsequent contraction of the aperture made in it, is, of course, by no means limited to Murphy's button. It applies to nearly every method in vogue for carrying out the operations now under discussion. Still, in spite of many drawbacks and many failures, intestinal surgery has made within the last few years decided and substantial advances, but it will fall short of perfection until antiseptic surgery, which has so far penetrated only to the serous covering of the gut, has reached the mysterious and septic lumen which lies within the bowel wall.—London *Lancet*, November 5.

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE, INCLUDING POSTAGE

Per Annum in Advance	$5 00
Foreign Postage	2 00
Single Copies	10 Cents

In requesting change of address give old as well as new location

Subscriptions may begin at any time and be sent to

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION
No 61 Market Street (Occidental Bldgs), Chicago, Illinois

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION

This is obtainable at any time by a member of any State or local Medical Society which is entitled to send delegates to the Association All that is necessary is for the applicant to write to the Treasurer of the Association Dr Henry P Newman, 100 Washington St Chicago Ill sending him a certificate or statement that the applicant is in good standing in his own Society signed by the President and Secretary of said Society Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership

On receipt of the subscription the weekly JOURNAL of the Association will be forwarded regularly

Gentlemen already members of the Association should send their annual subscription to the Treasurer or direct to the JOURNAL office

All communications and manuscript of whatever character intended for publication in the JOURNAL *should be addressed to the Editor* and all communications relative to the business of the JOURNAL proof sheet returned or in regard to subscriptions should be addressed to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 61 Market Street (Occidental Buildings) Chicago

Original communications are only received with the understanding that they are exclusively contributed to this JOURNAL

SATURDAY, DECEMBER 10, 1898

THE PRESIDENT'S MESSAGE

The President's message again recommends the commission of experts asked for by the American Public Health Association, and it is sincerely hoped in medical circles that a certain Washington Bureau will kindly permit Congress to act on the recommendation of the President without too much opposition

In my last annual message I recommended that Congress authorize the appointment of a commission for the purpose of making systematic investigations with reference to the cause and prevention of yellow fever This matter has acquired an increased importance as the result of the military occupation of the Island of Cuba and the commercial intercourse between this island and the United States, which we have every reason to expect

The sanitary problems connected with our new relations with the Island of Cuba and the acquisition of Porto Rico are no less important than those relating to finance, commerce and administration It is my earnest desire that these problems may be considered by competent experts and that every thing may be done which the most recent advances in sanitary science can offer for the protection of the health of our soldiers in those islands, and of our citizens who are exposed to the dangers of infection from the importation of yellow fever I therefore renew my recommendation that the authority of Congress may be given and a suitable appropriation made to provide for a commission of experts to be appointed for the purpose indicated

THE NORTH-WEST FRONTIER DISTURBANCES IN INDIA

From an official report we gather some items of information concerning the medical provision for the troops engaged with the hostile tribes from June 19, 1897, to April 6, 1898, which may be of interest at this time when we are investigating what was done and what was not done for the care of our sick and wounded during the Spanish War The corps units mobilized consisted of sixteen batteries of artillery, nine regiments of cavalry, ten companies of sappers and miners and fifty-nine battalions of infantry, aggregating 18,688 British officers and men, 41 677 native officers and men and 32,696 followers, giving a total of 93,061 The medical arrangements included fourteen British and twenty-two native field hospitals of 100 beds each, a total of 3600 beds There were no regimental, battalion or battery hospitals There were in addition to the accommodations of the mobilized field-hospitals, 6725 beds available for use at base or general hospitals The medical and hospital personnel consisted of no less than 9658 men, or over 10 per cent of the command, followers included

There were 41,055 men admitted to sick report during the nine and a half months and 1602 deaths, the admissions being at the rate of 451 70 and the deaths at the rate 17 20 per thousand of the strength Between June 28 and Dec 27, 1897, the average percentage of sick among the troops in the field was 4 58, the minimum rate at Kohat-Kurrum, 1 52, the maximum rate at Peshawur and vicinity, 10 52 Very great attention was paid to the sanitary state of the various posts and camps by the medical officers, and as a rule their condition was remarkably good The weekly sanitary inspections were carefully made, and especially with a view to the detection of incipient scurvy, which was entirely absent from the British troops The few cases which occurred among the native troops and followers were very mild The rations were good, the clothing suitable and the water-supplies safe guarded as far as practicable Quinin was used as a prophylactic when considered desirable

SICKNESS IN THE BRITISH SOUDAN FORCES A COMPARISON

There has been so much denunciation of the sanitary conduct of the war that it is hoped is now over, and some of it undoubtedly based on real defects of management, that we have almost come to accept it as, in this respect, a terrible example of how such things ought not to have been done In this country we reverse the practice of everywhere else and publish all our errors and deficiencies, so that all the world knows them, there is no limit to the scandalous chronicles given out, often without judgment or basis of truth Elsewhere public policy and national pride tend to suppress disagreeable truths, and there is no such wholesale newspaper criticism of everything that can by any possibility be made to show a bad side

The recent Egyptian campaign, in which Great Britain has just been so successfully engaged, has been held up to us as a model of excellence in every thing that pertains to the sanitary management of a campaign, and to a large extent the praises are undoubtedly deserved The perfect fairness of the com parisons that have been made to our discredit is however more than dubious In the one case we have military operations long planned and prepared for, carried on in an arid country where germ infection must be at a minimum, and yet nowhere far from a base where by navigable river or railway every needed requisite could be obtained The operations were carried on in a torrid climate it is true, but the bulk of the force was native, and the greater portion of the European contingent were experienced troops and had been acclimated to a certain extent by years of residence in lower Egypt There were no special endemic diseases, like yellow fever, to contend with, no heavy tropical rains and muddy roads to interfere with transportation and render the distance of even a few miles a formidable journey, no dense tropical vegetation and malaria-breeding marshes—for a war in the tropics the conditions may be said to have been in every way exceptionally favorable It may be added, that the English military are of all other fighting forces the ones most accustomed to tropical campaigning, and the administrative departments of the English army should be the best prepared at all times for its exigencies

If we take up now the conditions of our own recent war we find nearly every condition reversed With a war improvised to meet a popular sentiment, green soldiers, officers and men, transformed in a day from peaceful citizens, a little nucleus of a regular army, all the administrative departments of which, medical and otherwise, called at short notice from out of the ruts of more than thirty years of peace, and their tasks and responsibilities tenfold increased, no long careful preparation, and hardly any traditions even of tropical warfare and its requirements to guide their operations, it is little wonder that mistakes were made Add to this the fact that the military operations of the Santiago campaign were carried on in a miasmatic tropical region, during the rainy season, when the climate is deadly to the unacclimated whites, the dense vegetation, the tropical rains and the total lack of good roads, and therefore of inland transportation facilities, and lastly the presence of the dreaded yellow fever, the wonder is not that the hardships and mortality were so great, but that they should have been so little The comparison between Sir Herbert Kitchener's successful Soudan campaign and that of Santiago should take in all these facts and then it would be far less disadvantageous in some respects

Even as it is, we find some points where the vaunted excellence of the British military sanitation is not so evident, or, at least, where even their thorough methods were not altogether effective In the *British Medical Journal* of October 22 we find the statement that reports in private correspondence state that sickness has been fearful among the English Soudan troops, "although the papers, says the *Chronicle*, say little or nothing about it" Cairo hospital is said to have been so full that about October 4 most of the sick had to be cared for under canvas It is further stated that "the mortality during the campaign from enteric fever (which is now following the troops to Crete) will probably be found, when full reports are received, to be excessive In the same journal a week later (October 29) we find the statement that since the return of the First Battalion of the Grenadier Guards to England typhoid cases have been abundant One hundred and sixty men, altogether, were in hospital, many of them well-marked typhoid cases Assuming that the battalion comprised some 800 to 1000 men—rather less than more after a campaign—this would make a formidable percentage, fully equalling that of some of our green volunteer regiments on their return from Cuba, where they had the special disorders of malaria and yellow fever also to combat On the basis of these statements it would appear probable that typhoid fever was even a greater scourge to the British troops in the Soudan than to our own forces in the training camps and West Indies Why this should be so is not perfectly clear, unless we are to suppose that the disease was contracted in the Delta and carried up the Nile, as the Upper Nile valley with its scanty population ought not to be a breeder of typhoid Perhaps we may yet learn that the germ of typhoid is everywhere indigenous and only requires the favorable circumstance of an assemblage of men living under army conditions to make its presence known It has certainly come well to the front as a modern military disease, and one that requires more attention as such than it has previously received The fact that in the late Soudan campaign all the experience and foresight of former tropical warfare could not, under apparently especially favorable conditions, prevent its ravages to any appreciable extent bears witness to this need

Our own experience in this special regard does not appear by comparison, much worse than that of our English kindred, and this disorder eliminated from consideration, it can not be said that the sanitary record of the late war is much worse than ought to have been inevitable with our unreadiness and inexperience in military operations There is no use, evidently, in making comparisons to our disadvantage as regards this one form of possibly preventable military disease

THE BROWN BREAD DELUSION

One after another the instincts of primitive humanity are getting an unexpected endorsement from modern science Children always had the indecency to cry for sugar and to appropriate fruit wherever found, in spite of generations of alleged "hygienic" rebuke, which was really based on the good old Puritanic principle that because they were nice there must be harm in them somewhere Now, distinguished pediatrists assure us that next to proteids, they are the most important elements in the diet of budding humanity

For centuries past the great dietetic struggle of the laboring man, master or workman, has been to get white bread for his daily diet In all the old manuscripts we find the "fayre white lofe" alluded to as the choice delicacy All the time his self-styled "betters," whether social or scientific, have united in assuring him that his daily brown or black loaf, whether of rye, oats, barley, peas or whole wheat was much more nourishing and wholesome He never questioned their correctness, but he continued to prefer white and the more of it the better

Many of us can remember the new backing which was given to these hygienic views some thirty years ago, about the time, that "dangerous thing," a "little knowledge" of chemistry began to be diffused abroad Their correctness was demonstrated beyond possibility of doubt, we were triumphantly assured, for had not chemic analysis, the new infallible Pope of science, revealed that brown bread was far richer in nitrogen, that greatest desideratum of all foodstuffs? White bread might make fat, but it was brown bread that made bone and muscle Exploiters were quick to see the opportunity, and forthwith amid flourish of pseudo-scientific trumpets the great "Graham" crusade was launched, for the physical, mental and moral regeneration of humanity by the exclusive use of whole-wheat flour By gems we were to be saved The physical degeneracy of our working classes was fully accounted for in mothers' meetings by ascribing it to an excessive indulgence in white bread and tea The whole horde of dyspeptics, whose name was legion, as this new spirit entered into them, rushed violently down a steep place until they landed upon a blameless diet of Graham crackers and hot water Here they endured for a season the outcry of their rasped intestinal epithelium and hungry muscle-cells, in the sublime faith that they would have been much worse had they persevered in their former excesses of hot biscuit and pork Ultimately, however, they were drawn to the conclusion, that although it might be better for their dyspepsia it was worse for them, and here the first absurdity of the hasty "scientific" conclusion was demonstrated by bitter experience This was that it had failed to take into account the irritating effect of the hard, chaffy particles of husk, which contained the precious nitrogen, upon the gastric and intestinal mucosa Fifteen years ago "brown-bread gastritis ' was a recognized clinical type in some of our great hospitals, and our Philistine profession sent forth a counterblast to the effect that not more than three-fifths of the daily bread was under any circumstances to be brown, or evil results would surely follow, and as most of the enlightened had already backslidden to about this Laodicean position, they were obliged to sadly accept the edict and acknowledge that the new gospel, like many others, was too high to be lived up to completely Still if it were not for the irritating qualities it would be the ideal food, and even these defects were turned to account in recommending it as a remedy for constipation, in addition to its other good qualities For some reason or other, however, the consumption steadily decreased, every family, every class, every nation kept on discarding brown or black bread and substituting white as fast as they could afford it, and even the emancipated *illuminati* found themselves going back to the flesh-pots of Egypt and living without shame upon the white bread, the corn-meal mush, the flannel cakes of the common herd, who had no better guide than their mere appetites The brown loaf still lingers upon the board, but rather after the manner of the mummy at the Egyptian feast, a tribute to a vanished ideal rather than an article of diet

And now comes Lauder Brunton with one of those admirably shrewd table reports of his, full of the practical genius which has made his name famous, and completely demolishes the fancied nutritive superiority of this "ideal food" His line of investigation was two-fold, first as to the actual nutritive effect upon animals of graduated exclusive diets of white and of brown bread, second as to the exact form in which the excess of nitrogen was present The first group of experiments resulted in conclusively proving that although more nitrogen was present in brown bread, less of it actually got into the blood than from a similar weight of white bread, that white bread was not only more digestible and less likely to cause gastritis, but more nutritious, weight for weight, than brown The second series showed the physiologic and chemic wherefore of the results of the first, inasmuch as the boasted excess of proteids was found to be chiefly in the form of the husk, or skin of the wheat-berry, closely allied to woody fiber, and absolutely insoluble in the intestinal fluids Dr Brunton pithily remarks that if nitrogen were all that we required, regardless of its form, we could grow fat upon air He concludes by pointing out that it is precisely the stimulating effects of these insoluble and rather irritating ligneous particles upon sluggish bowels which give brown bread its well established value in constipation And as it is slightly richer in fat and distinctly so in lime and other salts than white, it would have certain advantages where the diet was deficient in these substances But as our heaven-born, instinctive preference for white bread is almost equalled in strength by another for plenty of butter on it, the small fat and salt superiority of brown bread can cut but little figure practically

We believe that the conclusions of this report will be endorsed by the practical experience of most general practitioners who have given careful attention to the diet of their patients They found out long ago that their cases did not thrive so well on diets containing too much brown bread or "whole meal ' compounds, and will be rejoiced to find this fact explained upon chemic grounds Lauder Brunton has rendered the profession a most valuable service by reporting his ingenious experiments But it is worth noting that the hard earned experience of the "man who carries the gun" in the army of medical progress, the family physician, had led him to precisely the same conclusion, and before that the untutored instinct of the natural man had reached the same goal

Our instincts are the crystallized experience of thousands of preceding generations, and we are rapidly coming to respect them as such in these latter days

THE LUXATION OF LARGE JOINTS IN THE COURSE OF INFECTIOUS DISEASES

While it is a well known fact that changes of greater or less degree frequently occur in the various joints of the body during the course of a large number of infectious diseases, it is not generally known that sometimes complete dislocations take place as the result of the progress of one of these maladies From the time at which a swelling or disease of a joint was supposed to be due to a distinct local condition to that in which it was regarded as being entirely the result of a rheumatic or gouty taint, we have been continually learning that almost any infecting micro-organism which usually produces localized lesions in other portions of the body, may, if it finds favorable conditions for its growth in the joint, produce arthritic change Thus we have the arthritic changes of purpura, of pyemia, of acute rheumatism, of the acute epiphysitis of infancy, which is practically an arthritic alteration, and the alterations which occur in rheumatoid arthritis In addition to these conditions, which seem to arise from a direct infection of the joint, or parts adjacent to it, it is necessary to note that far greater lesions may occur than the inflammatory processes usually met with in the conditions we have named, and therefore a paper which has recently been published by COLLIER in the *British Medical Journal* for Oct 15, 1898, in which he reports two cases of dislocation of the hip joint following scarlet fever, is of interest In the first there was suppuration in the neighborhood of the right hip joint, but no evidence of bone disease, but dislocation of the right femur upon the dorsum of the ilium took place, necessitating an operation eventuating in a recovery in anchylosis with slight flexion In the other case, also of scarlet fever, there was a history of injury on the fifteenth day of illness in that the patient fell out of bed upon his face, but it was not until a week later that any trouble with his joint was recognized In this instance dislocation of the right femur of the sciatic variety occurred, and although reduction followed extensive myotomy, three years afterward shortening of half an inch in the length of the leg was present

These cases of dislocation during the course of grave illnesses are of very great interest from the medical point of view, and of still more importance from a medico legal aspect As is well known, dislocations have been recorded in considerable number as having occurred during the progress of typhoid fever and acute rheumatism In the first of these diseases the displacement of the bone has occurred in the earlier days of convalescence, when the patient has been so feeble that it has seemed as if the accident was due to the relaxation of the coverings of the joint and its associated muscles, with the result that the bone has easily slipped out of place, and in nearly all these cases there has been no evidence whatever of any local difficulty prior to luxation On the other hand, in acute articular rheumatism where dislocation has taken place, there has nearly always been a history of arthritic difficulty prior to the accident, and instead of the dislocation producing pain of a moderate degree, as it has done in convalescence from typhoid fever, the occurrence of the displacement has been followed by great relief from pain owing to the overcoming of the vicious attitude which has been maintained by the limb The cases of scarlet fever in which this accident has occurred have belonged rather to the typhoid class in that the dislocation has taken place without much pain and therefore without attracting great attention to its presence As long ago as 1882 RAWDEN reported in the *Liverpool Medico-Chirurgical Journal*, an instance of dislocation following typhoid, in which having excised the head of the bone, he found it practically normal, even the cartilage being healthy, excepting for a little absorption at its periphery, while on the other hand ADAMS in a case of rheumatic dislocation of the hip found the capsular ligament ruptured and the torn margins of the rent closely embracing the neck of the bone While it is true that unobtrusive monarticular synovitis with effusion may take place in convalescent patients, the literature of the subject does not reveal the fact that post-typhoidal dislocations have usually been due to this condition, and COLLIER believes that degenerative changes similar to those seen in muscular fibers result in softening of the ligaments and of their attachment to the bones The possibility of recurrence of the dislocation under such circumstances is great, and the prognosis as to the correct use of the limb must be made with caution, since some cases seem to become entirely well while others never get rid of a certain amount of anchylosis or shortening

CORRESPONDENCE

Buying Patients

HARTFORD, CONN , Dec 1, 1898

To the Editor —Recently a physician who has attained some prominence in his neighborhood, wrote me asking what I was accustomed to give the family physician who sent his patient to my care I replied that I never bought practice and never gave anything to physicians who sent me cases He answered that he always received a fee of $10 for sending cases who could pay $20 and more a week Where the bills amounted to several hundred dollars, most medical men sent him 5 per cent on all accounts over $200 From inquiries I found that two gold cure establishments had received some cases from this physician and an obscure New York specialist had also received and treated some cases sent by him Within five years, since the prominence of "gold cures," I have heard of offers of this kind from managers of such places In all my long experience with the profession, I have never before been approached by a reputable man, and I am confident that a very few medical men would ever stoop to buy or sell patients in this way The real specialists, who depend on the profession for their cases, feel bound to the medical man to return the case to his care again with renewed confidence of the skill of the family physician A kind of unwritten law has grown up, in which the specialist assumes the care of the case for a time, and expects to return it to the care of the family physician for further and more protracted treatment In my experience in the care of alcoholic and opium takers, after a few months' residence in an asylum, the return to the family or general practitioner is a very essential part of the success of every case The best results come from the general after cure by the physician outside of the asylum The case is sent to me by the physician for such care as he can not give at the time and place When the acute symptoms subside, and restoration begins, it is often better to go back under the family physician's care In all this the specialist acts as a consultant and has no claim on the patient, nor is he under any special obligations to the physician who sends the case The physician is rather under obligations for the favor of special treatment, and return of the case to his care again The idea of buying and selling the privilege of treating the case is repulsive to all sense of honor and professional courtesy The physician sends his case to the specialist simply because it is the best interest of his case No other course should receive the least attention

Very truly,
T D Crothers, M D

The Commission Evil

Minneapolis, Minn , Nov 30, 1898

To the Editor,—The editorial in the Journal of November 12, on the "Commission Evil," sounds very much as though the writer had stumbled upon the unpleasant fact that some of his friends were engaged in the disreputable practice mentioned The protest seems a very mild one if the evil is as wide spread as the writer claims Dr Morris' communication in the last issue (*vide* Journal, p 1314) affords the pleasant assurance that specialists in the East are still in sight, at least, of the ancient traditions Unfortunately some of our western towns have become so infected with this evil that no honest, self respecting specialist would dare make the effort to establish himself if he knew the facts For the past few years, in this city, a patient with an eye bandaged could not walk our down town streets without being approached by runners with the offer to take him to a better surgeon than the one he was employing I do not know how many general practitioners are willing to accept bribes, but the fact that advertising quacks find it profitable to send circulars to the profession, offering commissions on all business sent to their surgical, lying in and other hospitals, is very suggestive, and the fact that men known to be guilty of employing runners are gilt edged candidates for any position in the gift of their professional brethren, does not indicate such a puritanic state of mind on the part of the latter as would blind them to the glitter of a dishonest dollar The specialist who fees the runner or the family physician, the insurance examiner who divides his fee with the agent the surgeon who operates cases for the advertising quacks, as well as the dishonest family physician who betrays his trust, are the parasites of our profession I congratulate Dr Morris on living in a community where such men are not the *leaders* of the profession

Edward J Brown, M D

Gold Cures

Hartford, Conn , Nov 28, 1898

To the Editor —In my paper on "Gold Cures in Inebriety," in the Journal of October 1, no reference was made to any combination of gold with other drugs for any diseases beyond inebriety The managers of mercauro and arsenauro, well known combinations of mercury and arsenic with gold, have misconstrued my statements to be reflections on their preparations In this they are very much mistaken, no possible criticism was or could be intended, and more especially as I have used this prescription in many cases with good results, and have repeatedly spoken of it in the *Journal of Inebriety* My criticism was directed only to specifics of any form which sought to bring about results known to be impossible

Very truly, T D Crothers, M D

PUBLIC HEALTH

Mouse Typhus —The Austrian government has made arrangements to exterminate the mouse pest in lower Austria by inoculating mice with Loeffler's mouse typhus bacillus —*Munich Med Woch* , November 8

Pellaggra in Italy —We note in a recent report that sanitaria are being erected in different provinces to treat this disease Persons affected are compelled to enter and remain forty days, in Padua twice a year Malaria is the most serious complication of pellagra It is hoped that the circular of questions submitted to each patient will in time throw some light on the obscure etiology of this affection

Deaf and Dumb in Norway —V Uchermann has recently compiled the statistics of all the deaf and dumb persons in the entire country, with objective data in most cases Half are congenital defects Of the cases of acquired deafness, one fourth were consecutive to scarlet fever, the rest mainly to cerebral and middle ear affections The influence of heredity is marked, especially the heredity of consanguineous marriages, although the inheritance of deafness and dumbness frequently alternates with other abnormalities, idiocy, epilepsy, malformations, retinitis pigmentosa, etc He attributes the preponderance of deaf and dumb children in consanguineous marriages to the accumulation of family peculiarities —*Cbl f Chir* , October 29

Sulphurous Acid in Preparation of Fruit for Market —As many hundreds of physicians are directly or indirectly interested in fruit culture, the following item from the 'Consular Reports" (November) will convey to them a much needed line of information The item is contributed by Consul Barnes at Cologne, Germany "Persons interested in the exportation of American fruits to Germany strongly desire to remove all reasons for obnoxious official investigations, and have requested me, through the Department of State, to call the attention of the American shippers to this condition of affairs, and to the absolute necessity of abstaining from the use of sulphurous acid, or any such preparation, in the exportation of fruit to this market A persistence in this practice will undoubtedly result in the entire exclusion of such fruits from Germany Stricter attention must be given to the German laws American dealers are still shipping to this market dried apple slices which have been cured upon zinc frames This process has been strongly condemned by the German Government and the sale or handling of fruit thus prepared interdicted by law These violations are suicidal in their effects and damaging to the several branches of American trade It is the opinion of importers here that in some instances American pears are also treated with the sulphurous acid process It is of no consequence that competent medical authorities here have decided that fruit treated with sulphurous acid is not detrimental to health It is sufficient for the watchful local official to know that the law forbids the sale of such fruit, and that his supreme duty consists in the strict enforcement of the law as he finds it upon the statute books American fruits are so far superior to other fruits found in this market that it would seem an easy matter to dominate the trade, without a resort to practices which tend to discredit them "

Masks for Non Isolated Tuberculous Patients —B Fraenkel has inaugurated, at the Berlin Charité, the innovation that all the tuberculous inmates must wear masks to catch the germs they expel in speaking and coughing, when they are in the common room, and only remove them while eating or expectorating The patients soon become accustomed to the mask, as by impregnating it with some medicinal substance they suppose it is to be worn for their own personal benefit, instead of for the protection of others Bacilli are frequently found on them At the Dettweiler sanitarium the patients are trained not to cough when assembled at meals Schafer found that a leprous subject with ulcerations in his mouth scattered leprosy bacilli through the room in conversing One of Fraenkel's assistants also discovered tubercle bacilli on his eye glasses after a tuberculous patient had coughed Hubner's tests are equally convincing He took some bacilli prodigiosus in his mouth and established the fact that they were disseminated throughout the room as he spoke —*Munich Med Woch* , November 15

Spread of Throat Illness by Milk —During 1897 there was at Surbiton a well marked outbreak of follicular sore throat, and as the result of personal inquiry it was very soon found that a milk supply was the apparent factor in distribution A visit to the premises was made with no result, and a close inspection of the cowsheds and of the employes was also made A sewer was being laid in the road outside the farm, and for a limited period there was a smell to be noticed, but it was unlikely that this could have so far affected the milk (since it was not kept stored on the premises near this road) as to render it in any way dangerous to health A man whose business it was to milk the cows, was examined and found to be out of health, and suffering from well marked tonsillitis and gastrodynia, and further with suppurating whitlows on the hands He immediately discontinued any employment with the cows, and no further case occurred There were considerably over thirty cases of illness, some very severe, under my notice, and probably many more —*Public Health* (London), October

Resolutions on Department of Health —Dr Liston H Montgomery offered the following preamble and resolutions at a meeting of the Chicago Medical Society, Nov 30, 1898, which were unanimously adopted

WHEREAS, Legislation on the bill which was introduced in the United States Senate during the early period of the present year looking toward a Department of Health as a separate branch of our Federal Government was deferred, owing to the impending crisis of the Spanish American War, and

WHEREAS, Said bill has the endorsement of the AMERICAN MEDICAL ASSOCIATION, the American Public Health Association and numerous State and municipal medical societies throughout the United States, and

WHEREAS, Much foreign territory to this country has recently been acquired wherein epidemic preventable and pestilential diseases have been and do prevail, and as many problems in sanitary science shall require careful study in these new fields, therefore, be it

Resolved, That for these, and for other obvious reasons, the Chicago Medical Society, through its officers, shall immediately request the President, in his forthcoming annual message to Congress, to recommend said contemplated Department of Health as an urgent necessity to our greater republic, and as a proper method for the protection to health and as a means of preventing a greater loss of life to American citizens visiting these distant countries, and as a means of looking toward a higher civilization where disease and pestilence are sure to remain unchecked, and through the increase of traffic and commerce are liable to spread to our immediate shores unless some such humane measures are adopted,

Resolved, That a copy of this urgent appeal, namely, preamble and resolutions, be immediately transmitted to the President of the United States for the purposes herein explained, and to the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION for publication, with the request that they be published in medical journals elsewhere

Typhoid Fever from Ice Cream —The annual report of Health Officer Dr Hope of Liverpool, records a prevalence of fever in a suburb of that city, known as the Knotty Ash district Four cases were notified to this office about the same time, all being among young children attending the same school Fifteen cases followed at short intervals, all from the same school After careful inquiry possible sources of infection which may have existed at the homes of the patients were excluded, and it was ascertained that the milk supplied at the various houses came from dealers whose premises were in good order Meantime, an investigation had also been made into the conditions of the school Careful examination exempted the water supply and the drainage of the school from suspicion It was discovered that two or more children had been visiting at Knotty Ash early in September, and were suffering from typhoid fever at their own homes, and later on a pupil in a school at Denbigh was attacked under similar circumstances None of these patients had been at the Knotty Ash school Ultimately the total number of children infected with typhoid fever amounted to twenty seven Inquiry elicited the fact that a village fair had been held in Knotty Ash on September 6 and 7, and that every one of the children who had suffered from typhoid fever, including those who did not attend the school, as well as those who did, had been present at that fair, and all admitted, with two exceptions, that they had eaten ice cream sold by a vender at the fair, and the two exceptions were believed to have eaten chip potatoes purchased from the same vender, though one was too young and the other too ill to give a definite statement The vender in question was reported to have come from Warrington, but after a careful search in the city, it was found that he was an Italian and had an ice cream factory in a low district of Liverpool, and there was, at the time of the fair, a case of typhoid fever in his house It may be added that the following were the results of a bacteriologic examination of a sample of ice cream purchased of an itinerant Italian ice cream vender in London It contained upward of 500,000 organisms per cubic centimeter The bacteria isolated were the bacillus coli communis (the cream contained 200 or 300 per c c), *streptococcus pyogenes, staphylococcus* pyogenes aureus, staphylococcus albus, bacillus liquidus, baccillus liquefaciens, bacillus liquifaciens fluorescens, and bacillus ubiquitus Neither oidium lactis nor bacillus diphtheriæ was discovered

Typewriting vs Penmanship —Dr Bizzorero has discussed the advantages which typewriting possesses over the old fashioned method of pen writing In his opinion penmanship is fraught with danger to the writer's health in a variety of ways To begin with, the constrained attitude he is compelled to assume favors a distorted spine, and especially scoliosis, together with venous congestion, headache, epistaxis, dyspnea and congestion of the abdominal organs leading to constipation and dyspepsia, the latter disability being well nigh inevitable should he sit down to write immediately after meals The hands having to execute dissimilar work, the penman can not guide his pen without keeping his eye glued to its point, and so his vision is bound to suffer, asthenopia being a frequent sequela owing to the straining of the accommodatory apparatus In the adults, vertigo and vomiting frequently complicate the case, but in children, whose power of accommodation is greater, the complication to be feared is myopia The use of a typewriter, according to Dr Bizzorero, is a perfect remedy for all these evils, and for the following reason The operator sits straight, with head erect and arms at liberty His lungs have free play and his adominal viscera remain uncompressed His eyes undergo no strain, for he is not obliged to keep them fixed on a moving pen, in fact, after a little practice he can turn them away from the keys whenever he likes without interrupting his work That distressing complaint, writer's cramp, so common among people who have to live by their pens, has no terrors for the typewriter His occupation is an amusement to him, and without the least discomfort he can return to it after eating But it is not to the healthy alone that typewriting presents so many advantages Numbers of people who have the misfortune to be palsied can not use a pen, whereas they can express themselves freely, thanks to the machine, and many sufferers from conjunctivitis, iritis or choroiditis who have been forbidden to write after the old fashioned style can in the same way carry on correspondence with their friends at a distance If proof were wanting that typewriting has no injurious effect on the eyes it would be forthcoming in the fact that the blind readily become expert manipulators Dr Bizzorero advances rapidity in writing as a hygienic advantage, but the legitimacy of the claim is not very apparent His contention in favor of legibility is, however, more likely to find acceptance, for in truth there are many handwritings of which the attempted deciphering can not but be highly injurious to the health of the unfortunate persons whose sad fate it is to endeavor to interpret the hieroglyphics —London *Lancet*, October 29

To the Physicians and Accoucheurs of Illinois —The law creating a State Board of Health, emphatically declares that it shall be the duty of all physicians and accoucheurs practicing in the State of Illinois, to report all *births* and *deaths* which may come within their supervision, and where the reports are not made the county clerk may recover a fine of ten dollars This law was enacted twenty years ago At the same time there was one enacted regulating the practice of medicine, which declares, in substance, that no one shall practice medicine in any of its departments in the State, without giving sufficient evidence of at least a minimum qualification, which with other provisions, are designed to be executed and enforced by the State Board of Health Such enforcement has driven thousands of quacks and nostrum vendors, charlatans and mountebanks from the State, and kept them out for the whole time Thus, while it has been a great protection to the people of the State, it has afforded, incidentally, *privileges and immunities to you as physicians* of the whole State You will please recall that these laws were enacted at the instance of the physicians of the State, by a legislative committee appointed at the May meeting of the Illinois State Medical Society, in 1876, and both laws went into effect the next year The law was enacted very much as the profession, then represented, asked that it should be In the meantime you have been quite anxious to have the quacks and nostrum vendors and others made to obey the law, while you have persistently neglected to obey the law yourselves in the matter of reporting births and deaths, so necessary to the collecting of vital, sanitary and mortuary statistics, and without good reason, while enjoying the *privileges* and *immunities* of the laws Now, when the State Board of Health feels that it is time to make some advances in sanitation and further suppression of quackery, and to raise the standard of practice as a better protection to the people of the State, which incidentally will extend your *privileges* and *immunities*, we feel that in view of your past conduct we can not very hopefully ask the Governor and Legislature, which is clearly our privilege under the law, for the much needed legislation to enable the Board so to do, when we will most likely hear the rejoinder, "how do you expect the legislature to empower the Board to make quacks obey the laws when the doctors themselves do not?" In view of these facts, I suspect that you would better hunt up your old blanks and begin to practice reporting *births* and *deaths* for while we shall ask for legislation along the lines suggested, we shall ask for that to enable us to enforce the collecting of vital and mortuary statistics as well The blank forms in your hands and accessible to you are faulty, and some features of the reports required are burdensome, and you ought not to be made responsible for all the report requires, all of which will receive consideration at the next meeting of the Board, in January, but it is clearly your duty to comply with the law while you enjoy its privileges and immunities —A C CORR, M D, Pres of Illinois State Board of Health

Acute Epidemic Ophthalmia —Hardly a year passes by, says Greeff, in the *Berlin Klin Woch*, without an outbreak of acute Egyptian ophthalmia No district is quite free, and each year acute ophthalmia makes its presence felt in or about Berlin In the early Napoleonic time, Egyptian ophthalmia is said to have destroyed the sight of many hundreds in a few days In pursuance of orders from the Government, Greeff has had good opportunity to study carefully true trachoma in regions where it is very common, and also one such epidemic in a district hitherto free He discusses the features of certain epidemic ophthalmias which, though often confounded with trachoma or Egyptian ophthalmia, are really distinct The mode of outbreak is not like that of trachoma, which does not spread so rapidly, trachoma is no doubt contagious, but every contagious ophthalmia is not trachoma The contagious character of trachoma shows itself rather in the slow invasion of the other members of a family or household, of whom one or more has been affected for years, and this usually in a country or district where the disease has been endemic for a century, or it may be for ten centuries He contrasts certain forms of conjunctivitis with one another and with trachoma 1 In pneumococcus conjunctivitis, the pneumococcus (Frankel Weichselbaum) occurs as an occasional inhabitant of the normal conjunctiva, and it may increase so as to bring about an epidemic It is generally children it attacks, adults are but rarely affected It is a transient malady, running a benign course somewhat quickly 2 Morax and Axenfeld's diplobacillary conjunctivitis is a more chronic variety, in which the lids participate largely In cover glass preparations the germs are very numerous, lying for the most part in pairs, less frequently in chains Implantation upon normal conjunctiva produces typic conjunctivitis It is not certain that any epidemic of this has actually occurred 3 The conjunctivitis of the Koch Weeks bacillus seems to be the most frequent of the contagious conjunctivites When in Egypt, Koch found the germ in cases of the slightest form of so called Egyptian ophthalmia It is the cause of acute contagious conjunctivitis It sets in very rapidly Both eyes are usually affected, pain, lachrymation photophobia, and a sense of burning are complained of The inflammation lasts about two weeks, and the prognosis is uniformly good As regards the bacterial origin of trachoma there is nothing settled, whether a diplobacillus or bacillus septatus is the cause is not certain In case of an epidemic conjunctivitis arising, it is possible to make a diagnosis of its true nature by examination for micro organisms Sometimes it happens that the medical officer of a school makes the alarming discovery that a great number of the students are suffering from follicular enlargement, and he may find it necessary to close the institution He must be careful not to be misled by an epidemic follicular catarrh or, to be more accurate, follicular swelling Schmidt-Rimpler while engaged in the study of the cause of the frequency of short sightedness in schools, noticed that many children suffered from some affection of the conjunctiva, and decided to make inquiries as to the frequency of catarrh, etc at a time when there was no epidemic he found a percentage of 21 On investigation Greeff finds follicles in 27 per cent. of the children He believes them to be due not to contagion but to a general pathologic condition they are quite common in anemic girls whose conjunctivæ are not in the least inflamed Prolonged fomentation of the eye as in the treatment of iritis etc. will also produce them The difference between them and trachoma granules is an essential difference —*Edinburgh Med Journal*

BOOK NOTICES

Repetitorium der Chemie von Dr CARL ARNOLD, Achte verbesserte und ergänzte Auflage, Verlag von Leopold Voss, 1898 Price 6 marks

This work has been revised eight times in thirteen years, and, besides giving a good general review of chemic subjects, it treats of their special medical aspects and will make an excellent reference book for those who are able to read the German text Particular attention is paid to the important combinations of the German pharmacopeia for the benefit of the physician and pharmacist The body of the work consists of a section of forty eight pages devoted to the principles of chemistry, one of 228 pages on inorganic chemistry, one of 280 pages on organic chemistry, one devoted to revised nomenclature A good table of contents and general index completes the volume, which is printed on good paper, has a flexible cover and is a recommendation for the publisher

Pamphlets Received

Advantages of Permanent Abdominal Anus, etc, Advantages of Trendelenburg Posture On Resection of the Gasserian Ganglion Removal of an Angioma of the Liver by Elastic Constriction By W W Keen, Philadelphia Pa Reprints

Advertising in Some of Its Phases By Frank A Munsey, New York City Paper, pp 44

Are Complete Castrates Capable of Procreation? By B P Sturgis, New York City Reprinted from Med News

Auenbrugger and Laennec the Discoverers of Percussion and Auscultation By E O Otis, Boston, Mass Reprinted from Boston Med and Surg Jour

Bedborough Trial, A Note on The By Havelock Ellis Paper, pp 25 London The University Press 1898

Ergot Aseptic, The Pharmacologic Assay of Heart Tonics By E M Houghton Detroit Mich, Reprints

Illinois Medical College Fifth Annual Announcement Chicago

Kentucky University Med Dept Announcement for 1899 Louisville

On the Relationship of the Nose to Diseases of the Skin By Walter A Wells, Washington D C Reprinted from N Y Med Jour

Satisfactory Method of Removing Powder Stains in Fresh Cases By J W Heustis, Dubuque Iowa Reprinted from Ophthal Record

Some Advantageous Points in Operative Technic of Pelvic Surgery By J P Crawford Davenport, Iowa Reprinted from Med Record

Vitality An Appeal, an Apology and a Challenge By Lionel S Beale, London, England Reprinted from the Lancet

Trade Pamphlets

The New 1898 Antitoxin Brochure of H K Mulford Company a thorough revision and improvement of that issued last year, is a valuable reference book on the serum treatment of diphtheria An interesting feature is a section of official reports on the employment of diphtheria antitoxin and a complete symposium of what all recent text books say of the antitoxin treatment It will be mailed gratis upon request

Blennostasine McKesson & Robbins New York City

Catalogue of Medical Publications G P Putnam's Sons, New York City

Columbia Desk Pad Calendar for 1899 Pope Mfg Co, Hartford, Conn

Hemaboloids Palisade Mfg Co, Yonkers N Y

Hygeia Hotel The J G Nichols Citronelle Ala

Miscellaneous Pamphlets Schering & Glatz, New York City

Munson s Typewriter Brochure Chas Ervin Hill, Chicago

'One Food" John Cash & Sons New York City

Physician's and Surgeon s Pocket Dictionary of Medical Terms Sent gratis on request Katharmon Chemical Co, St Louis, Mo

SOCIETY NEWS

San Francisco County Medical Society —In the list of officers, recently elected (vide JOURNAL, November 26, p 1305) by this Society, the president was erroneously given as Wm H. Davis instead of George William Davis

Otological Congress —The Sixth International Otological Congress will be held in London, Aug 8 12, 1899 Dr Urban Pritchard, professor of otology at King's College, London, is president The meetings will, by permission, be held at the Examination Hall of the Royal Colleges of Physicians and Surgeons, Victoria Embankment The subject chosen for special discussion is "Indications for opening the Mastoid in Chronic Suppurative Otitis Media" The Congress, which assembles every four years, met last in Florence, where a very successful gathering was held under the presidency of Professor Grazzi

Chicago Medical Society —A regular meeting was held Nov 23, 1898, with Dr Arthur D Bevan in the chair Dr Truman W Brophy spoke of the results of early operations for cleft palate, and exhibited three or four children upon whom he had operated The results were excellent in all of them Dr Manning presented a specimen from a case of osteomyelitis Dr Arthur R Edwards reported a case of "Cystic Degeneration of the Kidneys," and exhibited specimens, and Dr C G Buford also showed two kidneys from a case of cystic degeneration Dr H T Byford exhibited a fibroid tumor which had developed subperitoneally, and had attained a size sufficient to completely fill one half the pelvis He resorted to abdominal hysterectomy, and described the manner in which he removed the tumor

Wayne County Medical Society —The members, on December 1, visited the Ypsilanti Sanitarium, Ypsilanti, Mich The distance from Detroit to the sanitarium is some thirty one miles by street car line Special cars were provided to convey the visiting physicians to and from Ysilanti, and these were crowded to the doors with jolly doctors who had laid aside the arduous duties of their profession for a few hours to enjoy the outing At the sanitarium a banquet was served and the visitors were afterward conducted through the institution The Society then assembled in the large operating room of the building and was called to order by Dr R H Honner, president The following responded to toasts Drs C C Yemans, O W Owen, G A Kirker, James Hueston, J J Mulheron and J Samson Toasts to the secular press were responded to by Mr Baker and others

Washington Obstetrical and Gynecological Society —At the 288th meeting of this society, held November 18, at the residence of Dr W P Carr, Dr G Wythe Cook read the essay of the evening, reporting a case simulating peritonitis in a hysteric woman The patient had been ill for several months, suffering from gastro intestinal catarrh, and had traveled extensively throughout the country for health Shortly after she developed marked symptoms of gastric ulcer, and during the attack developed symptoms simulating perforation and peritonitis Dr Van Renssalaer was called in consultation for the purpose of operating, but advised delay The subjective symptoms became more marked, but were not in keeping with the temperature and pulse, which were practically normal Eventually the case was considered hysteria and all the symptoms disappeared promptly under the administration of asafetida An interesting discussion, with the citation of interesting cases, was participated in by Drs Sprague, Van Renssalaer, Stone, H L E Johnson and Bovee Dr H L E Johnson presented a large polypus which he had removed from a female urethra The growth was pedunculated, and grew from a point one fourth of an inch above the dilated meatus The patient has been diabetic for several years and at one time was treated in a hospital at St Louis She had been passing large quantities of sugar, but that ingredient had promptly disappeared after treatment with iodid of potash Dr Stone presented a microscopic specimen of the cyst wall from the specimen of supposed tubal gestation which he had exhibited at the previous meeting

Philadelphia County Medical Society —At the last meeting of the section on surgery of this society, Dr Ernest Laplace presented a new pair of forceps he had recently devised for performing intestinal anastomosis In order to prove its usefulness the speaker gave demonstrations on performing intestinal anastomosis with the instrument and proved that an end to end anastomosis could not only be more quickly and easily performed, but also that the lumen of the bowel was not lessened The instrument may be roughly described as a double pair of forceps with long handles, but at an angle of about forty degrees and locked together Instead of the blades being flat or grooved, each blade has a ring shape, so that the delicate tissues may be easily handled The advantage of the forceps lies in the fact that one pair may be safely intrusted to an assistant while the operator is able to perform the operation with greater ease and rapidity Dr Laplace has given demonstrations upon the cadaver and also upon dogs, and in all instances the utility of the instrument has been proven Drs J Chalmers DaCosta, Edward Martin, Mordecai Price, Wm L Rodman and others, all spoke favorably of the instrument, and thought it possessed advantages over any other device or instrument for intestinal surgery Dr Edward Randall read a paper on "Catheterization of the Eustachian Tube" and took the position that the operation should be done more promptly by the general practitioner, who should become familiar with the method As a medicament he thought the vapor of iodin the best He preferred a catheter with a straight tip instead of the bulbous, on account of it being more readily introduced into the opening of the Eustachian tube One of the speakers present dissented from the view taken by Dr Randall, and preferred the tube with a rounded or bulbous extremity, because of less danger of doing harm in its insertion The celebration of the semi centennial of this society is to occur Jan 16, 1899 A committee has been appointed to make fitting arrangements Dr J Chalmers Da Costa will deliver an oration, and Dr Kerr Boyce Tupper the memorial sermon The committee having the matter in chargeconsists of Drs William Welch, chairman, W W Keen, John B Roberts, James Tyson, W B Atkinson, George M Gould and A H Cleveland

Detroit Academy of Medicine —At the meeting held November 22, the Academy listened to a paper by Dr Heneage Gibbs, health officer of Detroit, entitled "Sarcoma Some Points in the Prevention of its Growth" He considers it essential to remember that while carcinoma is developed from normal tissue originating from the epiblast and hypoblast, sarcoma arises from tissues developed from the mesoblast, and is therefore of connective tissue type Typic sarcoma consists of a mass of round and spindle shaped cells with numerous blood-vessels running through the cells and lying in contact with them Sarcoma grows from normal tissue which has reached the adult stage before the neoplasm begins to grow, but it first appears as embryonic connective tissue Malignancy is associated with rapid growth, and the closer they remain to the embryonic type, the more malignant they are Sarcoma, therefore, grows when presumably healthy tissue has been acted upon by some "influence" of which we know nothing, except that it has some connection with development Classified according to the method of their growth malignant neoplasms may be divided into epithelioma, glandular carcinoma and sarcoma The first starts from squamous epethelium nourished in as normal a manner as any gland in the body The third type is derived from tissue which is mechanical in function, but which under malignant influence grows and destroys everything on its way It is nourished directly from the capillaries about the cells, it is therefore a neoplasm made of cells which by the rapidity of their formation promote the means for their destruction because of their low vitality The cicatricial tissue formed about an old ulcer, while histologically presenting the same tissue as is formed in the early steps of sarcoma, differs essentially in not being under the malignant "influence" The method of prevention of growth in these neoplasms must, therefore, depend upon a study of the growth and development Local treatment in the first class might stop their growth In the second form both the circulation and lymphatics must be used and treatment must be local and general The third form, especially when they approach a normal type of cell, is amenable to operation

Detroit Medical and Library Association —At the regular meeting November 21, Dr E S Sherrill read a paper on "The Nature and Treatment of Accidents in Connection with Electricity" He divided accidents into two classes 1, those arising from contact with an electric current, whether artificial or natural, 2, those from a remote effect not connected with actual contact. He said that death may be occasioned by actual lesion or destruction of tissue or by the arrest of respiration, producing asphyxia He described the non fatal cases as those from which there is shock more or less severe with burning of tissue at the point of entrance and exit of the current He summarized the effects of the electric current as 1 In fatal lightning stroke, punctate hemorrhages in various organs have been found and even meningeal and intra meningeal hemorrhage of considerable size 2 In fatal shock from commercial currents few autopsies have been reported, the blood is usually found fluid and the viscera congested small hemorrhages of the serous membranes are frequent In both these classes there will usually be found the scarred tissue marking the point of contact Non fatal cases, he says, have burns of decided severity There is a period of unconsiousness, usually followed by mental depresion or excitement The respiration is feeble, the pulse slow and small, the skin cool and the muscular strength lessens Other symptoms may occur, such as loss of vision nausea, diarrhea, etc Such nervous symptoms as anesthesia, pain, hysteria, paresis, and even hemiplegia may occur He gave the results of experiments on the effects of electricity which may produce death It was reported at the Medical Congress at Rome that with a current of 1500 to 2000 volts the killing of animals was not sure and easy It is believed that the more highly organized the animal is the greater the danger from an electric shock Tesla has shown by a personal test that the alternating current of feeble ampèrage vibrating rapidly is harmless, even when the voltage is high, he himself having taken one half million volts The arc lights of most cities are supplied by a current which has an ampèrage from 5 to 9 and voltage from 1000 to 2000 The treatment for accidents resulting from electricity should be 1 Prophylactic Those employed about electric machinery should wear suitable gloves In some places employes wear a sort of harness which holds flexible strips of copper insulated and extending up the arms, over the shoulders and down the legs to the feet, in thunder storms trees are to be avoided, in the house rooms containing stoves or open grates should also be avoided 2 Medical and surgical Artificial respiration should be thoroughly tried for at least one hour The strong reflex influence caused by forcible stretching of the sphincter ani muscle should be tried Oyxgen gas should be administered When pain and nervous symptoms occur give hypodermic injections of morphin Strychnia should be given for depression Where there is slough from the burns they should be surgically treated

At the regular meeting November 28, Dr F L Newman read a paper on "Orbital Cellulitis," and gave the following reasons why this disease is of greatest interest to the general practitioner He is the one most likely to see the case first diagnosis usually presents great difficulty, the rarity of the disease, proximity of the tissues of the orbital cavity to the brain and the vascular connection with the other orbit He gave as causes of orbital cellulitis, trauma, pyemia, facial erysipelas, facial boil or carbuncle, inflammation of the antrum of Highmore, phlebitis, purulent meningitis, typhoid fever, scarlet fever and diphtheria, it may also occur idiopathically in very delicate children He gave as prominent symptoms of the disease, great swelling and redness of the upper lid, pain, increased on pressure, exophthalmus congested and chemosed conjunctiva, high fever, etc The disease should be differentiated from periostitis of the orbital wall and orbital growths The diagnosis was minutely taken up As an illustration he reported the following case occurring in his own practice A girl 8 years of age had previously suffered from a sty on the eyelid On the evening of January 29 she became very feverish and nervous and complained of a pain in the eye, the lid of which had commenced to swell The Doctor found the child lying on her back with her eyes closed The right eyelid was red and swollen the pulse very rapid and temperature 105 degrees She was extremely nervous No exophthalmus was observed at this time He gave sedatives and an antipyretic During the night the symptoms became so severe that another physician in the neighborhood was summoned, but Dr Newman saw the child early next morning The condition of the child was very much worse, both upper lids were enormously swollen and reddened and the child was now almost in the condition of coma Another physician was called in consultation and it was decided that, on account of the meningeal involvement, the case was hopeless The prognosis proved to be correct The child began having convulsions very soon after and died at 5 o'clock on the 21st, having been ill less than twenty-four hours

MISCELLANY

Personal —Dr Sanger Brown has resigned from the faculty of Rush Medical College

A Motto for the Antivaccin Party —The philosopher, Hobbes, long ago declared that men would dispute the axioms of geometry when they had a strong interest in so doing

"Philadelphia Medical Journal" —It is announced that, with the close of 1898, the *Philadelphia Polyclinic* will cease publication, subscribers receiving instead the *Philadelphia Medical Journal* A similar arrangement was made with the *Atlantic Medical Weekly*, which ceased publication recently

Inhalation of a Tooth Filling —O'Donovan of Baltimore, in the *New York Medical Journal* of November 26, reports a case of bronchitis and pneumonia caused by inhalation of the filling from a tooth during extraction under nitrous oxid anesthesia

Ethics of Homeopathy —A medical gymnasium and bicycle club in St Petersburg recently expelled a member on discovering that he was a homeopath, which fact he had concealed when applying for membership, but he declined to be expelled, and carried the matter into court, where it was decided in his favor The club has appealed to the higher authorities —*Deut Med Woch*, November 10

Artificial Thyreogenous Exophthalmic Goiter —Notthaft reports the case of a man, 43 years old, who was ordered thyroid extract for obesity Within five weeks he took nearly 1000 tablets, each containing 5 grains For the first three weeks nothing was noticed, except loss of flesh, but after this time dyspnea came on, with swelling of the neck and very rapid loss of weight Altogether, 30 pounds were lost, and five sixths of this loss took place in the last three weeks When examined, the patient had marked exophthalmos, with both Stellwag's and Graefe's signs, the thyroid gland was enlarged and pulsated, and there was a thrill over it, there was fine tremor of the fingers and tongue, the cardiac apex beat was displaced outward, and the pulse was 120 to the minute, there was cough and severe mental depression, polyuria and glycosuria also were present Under the use of Fowler's solution and after the withdrawal of the thyroid extract, most of the symptoms rapidly disappeared, only the ocular manifestations and the goiter persisting for nearly six months Notthaft considers the case one of thyreogenic Graves' disease, as the rheumatic pains and headache so common in thyroid poisoning were absent, and all the symptoms of exophthalmic goiter were present He believes that Graves' disease may be due to qualitative changes in the thyroid secretion, and suggests that the explanation of the occasional good effect of thyroid gland extract in the affection may be attributed to the fact that the patient's thyroid is unable to produce a sufficient quantity of normal secretion, and, being constantly called upon to produce a secretion, gives forth one that is changed qualitatively, thus causing a poisoning that gives rise to the symptoms constituting Graves' disease He believes, further, that the theories of a hematogenic or organic nervous origin of the disease are disposed of by the absence of any changes in the blood or nervous system that are at all constant or could be considered sufficient explanation for the symptoms The theory of a pure neurosis, based upon the occasional hereditary transmission of the disease, or its association with other neuroses, and similar arguments is, he believes, after a careful study of the literature, not justified, as such occurrences are probably coincidences The theory placing its causation in some changes in the thyroid gland is fully justified by the almost constant presence of changes in this gland, both clinically and pathologically by the frequent association of exophthalmic goiter with myxedema, which disease is indubitably connected with the thyroid gland, and by the frequent improvement in cases of Graves' disease after operations upon the thyroid gland An extensive reference to literature accompanies the article —*Centralblat für innere Medicin*, April 9

Gastric Tetanus —Sievers describes two observations of fatal tetanus complicating gastric dilatation from small cicatrized ulcers There are twenty seven cases of the kind on record, the dilatation usually caused by the cicatrization of an ulcer, and consequently accompanied by "hyperchlorhydrie," but in a few cases there was neither dilatation nor "hyperchlorhydrie," as in Blazicek's case, in which the distended gall bladder compressed the duodenum In three cases the ulcer was complicated with carcinoma —*Rev Gen de Path Int*, November 5

Acute Delirium from Auto Intestinal Intoxication —Soelder relates observations of six cases, all young women or girls, in otherwise good health, suddenly affected with motor excitement, distress, cephalgia, uninterrupted walking, death following in a week or two from cardiac paresis The anatomic changes were cerebral hyperemia and edema, intense congestion of the lungs, parenchymatous degeneration of the kidney, heart and liver, and chief in importance, a coprostasis of the large intestine, although there were no indications of digestive disturbances and no signs of increased putrefaction of the albuminoids in the urine Similar cases have been attributed to the cerebral hyperemia or to a bacterial invasion of the brain, but the toxic lesions of the large organs favor his theory of an intestinal auto intoxication —*Rev Gen de Path Int*, November 5

Cocain Poisoning —A considerable proportion of the fatal cases after the use of cocain has been among medical men who have treated themselves for purposes of relieving pain, and have by accident or design injected an overdose An instance of this kind occurred a few years ago The body of a young medical man was found at a railway station In his hand was a hypodermic syringe containing morphia which he had evidently been about to inject as an antidote He had been accustomed for some time to inject cocain for the relief of neuralgia On April 18, Dr Thomas held an inquest at Paddington on the body of the wife of a medical man, who had died after drinking a solution of cocain Eight weeks previously she had swallowed a quantity of laudanum from a phial which she had found in her husband's bag, assigning no reason for doing so but telling him immediately after the act Antidotes were applied and she recovered On the evening of April 13, she remarked to her husband, "I am feeling ill," and produced a small bottle from her pocket containing a solution of cocain, which she had abstracted from the bag when she had obtained the laudanum previously Both bottles were duly labeled "poison" She said she had taken cocain and asked that a medical man be sent for, but all treatment was unavailing All experience shows that care is requisite in administering cocain, as it has again and again happened that small amounts of the alkaloid have given rise to the most threatening symptoms Two thirds of a grain injected subcutaneously caused the death of a woman aged 71 years, in five hours, and a man died almost immediately after taking twenty-two grains by the mouth Persons, however, habituated to its use can take increasingly larger doses Among the most striking illustrations of its threatening characteristics are abnormal exaltations of the feelings, loquacity accompanied by mental incoherence, severe sweating, fall of temperature, shallow and irregular respiration, dilation of the pupils, disturbance of vision, nausea, feeble pulse and, ultimately, collapse In persons suffering from these symptoms stimulants should be given The inhalation of chloroform has been tried to relieve the spasm Nitrate of amyl has also been suggested Some medical men make it a practice to give a prelimary hypodermic dose of from one eighth to one quarter of morphia, according to the age of the patient The physiologic antagonism between the drugs is pronounced, so that while morphin is not an absolute antidote, it is at least most valuable in counteracting the toxicity of cocain Dr Griffin, in the *Philadelphia Medical Journal*, has pointed out the variety of susceptibility and idiosyncrasy to cocain which different individuals present Some patients who are acutely poisoned exhibit maniac excitement, while others are stupid It is well known that poisoning has followed the use of a dose far short of the maximum therapeutic allowance, even a fraction of a grain having been reported to have caused serious symptoms There are also instances in which a solution of a certain strength has been used without unpleasant effects, while a repetition of the same dose on a subsequent occasion has caused toxic symptoms The injection of camphor dissolved in ether and the employment of artificial respiration, have recently been extolled as the best treatment for the acute poisoning In chronic poisoning by cocain there is one symptom, known as Magnan's sign, which is of considerable importance in establishing a diagnosis when the use of the drug is denied, and is also of importance in other cases as indicating to the physician the necessity for immediate discontinuance of the remedy This sign is an hallucination of sensation, the patient complaining of feeling some foreign body beneath the skin This is generally described as being small in size, and is usually ascribed by the patient to the presence of sand, worms or microbes

Artificial Immunity and Cure of Infective Diseases —R Emmerich and O Low publish a preliminary communication in the *Munich Med Woch* of November 8, in which they assert that the final destruction of bacilli is due to an enzyme which they themselves form, the effects of which are transferable from one kind of bacillus to another They state 1 The growth gradually ceases in many cultures, in spite of an abundance of suitable nutrient medium, and this they have found to result from the presence of an enzyme, formed by the bacteria, which in time destroys them 2 Some of these bacteriologic enzymes are able to destroy other bacteria, even the pathogenic, besides the species from which they were derived As these bacteriolytic enzymes are also able to destroy pathogenic bacteria in the animal organism they are capable of curing infective diseases It is an easy and certain process to cure, with the enzyme of the bacillus pyocyaneus, within thirty hours, an anthrax infection progressing to a fatal course 1 c c of this enzyme solution dissolves *in vitro* in twelve to twenty four hours millions of diphtheria, cholera and typhus bacilli, showing that this pyocyaneus enzyme can also be used for these infections Even the plague bacillus is destroyed by it 1 c.c will dissolve thirty millions of plague bacilli within a few hours 4 The bacteriolytic enzymes are destroyed in the animal organism and permanent immunity can not be obtained with them, although a few injections will cure the infective disease But the writers have succeeded in combining the enzyme *in vitro* with an animal albuminoid which makes it last longer in the animal organism and therefore adapts it to immunization With this highly molecular complex combination they have succeeded in immunizing rabbits against anthrax and guinea pigs against diphtheria In all probability the effective principle of an immunizing serum is nothing but a combination of the specific enzyme with an organic albuminoid (cause of artificial immunity) The so called "agglutination" is the first stage in the dissolving of the bacteria by the enzyme combination 5 The difference in the behavior of the immunizing sera in the presence of specific, pathogenic bacteria *in vitro* and in the animal organism, depends upon the presence or absence of oxygen in the form of gas Excluding this completely, *in vitro*, the specific pathogenic bacteria are not only agglutinated by the immunizing serum but killed and dissolved, as was proved repeatedly with cholera and typhus bacilli

Peptones in the Organism —A communication received by the Académie de Méd states that the assumption that peptones are toxic products is due to the impurities they contain, which are easily removed by Gautier's new process The writer proves their non toxicity by his experiences with animals, to which he administered peptones by both the gastric and intravenous route, finding that the animals gained rapidly in weight, thus also establishing their great nutritive value Animals fed with peptones combined with carbohydrates, fats and mineral substances, thrived far better than others without the peptones They do not produce incoagulability of the blood, they merely seem to augment the vitality and the number of the corpuscles They can not be used for therapeutic anti infectious purposes, in intravenous injections, for example, as the peptonized animals succumbed more rapidly than the control animals Their use is indicated, however, whenever gastric nutrition with the usual nitrogenous foods is defective In such cases the ingestion of peptones by the stomach or rectum offers unquestionable advantages He also establishes the fact that while plants and microbes manufacture peptones and other albuminoid substances from relatively the simplest nitrogenous elements, the animal, on the other hand, does not manufacture albuminoids even from the most complex nitrogenous products For the animal, therefore, there is nothing that can take the place of the albuminoids —*Bulletin*, October 31

Governmental Meat Inspection —A case is instanced in the *Northwestern Reporter* to show the marked differences that exist between the law as laid down in England and the law as declared in this country in relation to the implied warranty of wholesomeness upon the sale of meat for immediate domestic use The plaintiff was a woman who bought some pork from the defendant, a retail dealer in meats, who knew that she purchased the pork for immediate consumption by herself and family The pork was, in fact, unfit to eat, and made the plaintiff and her family ill She sued for breach of the implied warranty of wholesomeness The trial court held that there was no such warranty, and the defendant had judgment there, but the supreme court reversed it, saying in the course of the opinion "In England at common law there could be no recovery, as there was no implied warranty or quality But the law on the subject as established in England does not prevail here As a rule, we think the decided weight of authority in the United States is that on all sales of meats or provisions for immediate domestic use by a retail dealer there is an implied warranty of soundness or wholesomeness The system of meat inspection by officers of the National Government has been pronounced unconstitutional in the decision rendered by Judge John Rodgers in the United States District Court for the Western District of Arkansas He set aside an indictment for bribing a Government meat inspector, on the broad ground that the Federal Constitution does not confer upon Congress any power to legislate in reference to the packing of meat in storehouses or the inspection of meat when thus stored Hence he holds that the attempt to establish the office of meat inspec tion was ineffectual, and there is no such officer Notwithstanding this decision, it is announced from Washington that meat inspection will be continued for the present under the direction of the Department of Agriculture The new attorney general thinks that the indictment passed on by Judge Rodgers omitted to state facts which would have shown that the inspected meat was really in transit from one State to market in another, and thus became liable to Congressional legislation as a subject of interstate commerce

The Roentgen Ray in Tuberculosis—R Muhsam reports tests with radiotherapy on twenty six guinea pigs, successful in arresting local tuberculous processes, though general infection was not affected by it (*Deutsche Med Woch*, November 10) Ausset and Bedart describe a case of chronic tuberculous peritonitis in a girl of 9 years rebellious to all therapeutic measures, cured completely with radiotherapy when the prognosis seemed very unfavorable There were fifty seances in all, averaging thirty minutes, the tube 12 cm from the skin —*Echo Med du Nord*, November 13

Common Sense Infant Feeding—In the *Medical Record* of November 26, Fischer of New York presents several formulæ to be followed when nature has been unkind and deprived the infant of its proper food—breast milk For an infant under two months old, to be nursed or fed not oftener than once in two hours from 6 A M to 10 P M (some requiring an extra feeding at 2 A M), he orders the following mixture Cow's milk 200 gm, water 700 gm, milk sugar 30 gm, to be divided into eight parts, the quantity for each feeding consisting of about 100 gm, or 3 oz For a child from two to four months old, he orders a mixture of cow's milk 350 gm, water 700 gm, milk sugar 36 gm, to be divided into seven parts of 150 gm, or 5 oz, and feeding to be not oftener than every two and one half hours Formula No 3, for a child from four to five months old, contains cow's milk 500 gm, water 500 gm, milk sugar 40 gm This mixture is to be divided into six portions, e g, three bottles containing 6 oz and three containing 5 oz each the 5 oz bottle alternating with the 6 oz bottle every three hours The child from five to nine months old is to be fed every three hours, the following mixture being divided into three 6 oz and three 7 oz portions, and given alternately Cow's milk 750 gm, water 375 gm, milk sugar 50 gm Formula No 5, for children from nine to twelve months old, comprises Cow's milk 1125 gm, water 375 gm, milk sugar 50 gm This mixture is divided into eight portions, 8 oz each, and one bottle given every four hours Over one year of age, he uses pure cow's milk undiluted, feeding 8 oz every four hours, the formula being Cow's milk 1500 gm, milk sugar 59 gm, this quantity being divided into six portions, each containing 8 oz He emphasizes the necessity of sterilization of everything used in connection with infant feeding, e g, cow, pail, stable, etc, also the importance of boiling the nipples immediately after being used, in plain water to which a pinch of salt has been added They should then soak in salt water until to be again used If a child takes only half a bottle's contents, the remainder must be thrown away and a fresh bottle be used He also emphasizes the individualization of feeding, some children requiring food once in three, others every hour He weighs the child weekly, and if there is not an increase of four to eight ounces during the first three or four months of infant feeding and several ounces weekly, up to dentition, it is safe to change the method of feeding

Operating on Wrong Leg—As the basis of an action for damages sought to be recovered from a practicing physician and surgeon, it was alleged that he was employed to operate upon the plaintiff's right leg, but after putting the plaintiff under the influence of chloroform, wrongfully and carelessly operated upon the left leg, thereby causing the plaintiff great pain and suffering According to the plaintiff's testimony his right leg was very sore, and from time to time he got medicine from the defendant, until the latter finally advised him to go to the hospital, and on the following morning the nurse prepared him for the operation by shaving the right leg from the knee down, as the operation was to be upon the shin bone, some wash also being put on and the leg bandaged He was then taken to the operating room and given chloroform On cross examination he acknowledged that the left leg had also at one time troubled him, but maintained that it had healed The nurse testified that the patient had a swelling on both legs, but prepared the right one, which was a little discolored, for the operation on being told by the patient that was the one The plaintiff's brother testified that when the plaintiff was on the operating table and both legs were exposed, the defendant said "See here! you fellows have made a mistake, you have prepared the wrong leg for operation" But when the defendant asked this brother which leg it was that the plaintiff wanted operated upon he could not tell, stating that he was confused, but would telephone his folks and make sure, which was assented to but not waited for, perhaps because at about that time the father of the plaintiff appeared on the scene, though previously told by the plaintiff not to do it, and when asked if it was the right leg, which was pointed out, said "No, the other leg," though he said he had his mind on that leg all the time, and thought that the defendant could not make a mistake Thus, according to these witnesses, did the left leg come to be operated upon, and a week or so afterward the defendant operated on the right one The case was tried before a jury, and the court directed a verdict in favor of the defendant But the supreme court of Michigan holds, Sullivan vs McGraw, that the case should have been submitted to the jury for their determination, whether the defendant exercised that degree of care which, under the circumstances, he was bound to exercise, the supreme court considering that there was evidence tending to prove negligence, wherefore it reverses the judgment of the lower court and grants a new trial

Experimental Surgery of the Heart—Some extensive experiments are reported from Breslau, in which the hearts of rabbits and dogs were subjected to all kinds of wounds, punctures, incisions, etc, and then sutured, with the result that it is apparent that the heart of the mammal, of the rabbit at least, can stand even quite large wounds if excessive hemorrhage is prevented The application of a suture even nearly around the heart does not, per se, determine any serious effect if secondary injuries are avoided It was found that the third, almost the half, of the ventricle could be excised without injury after applying a tobacco pouch suture or ligature above Several animals were operated by applying a ligature around the ventricle just below the middle, and the heart was then pierced entirely through with a small scalpel just below the ligature, that is, through the wall of the left ventricle, the septum ventriculorum and the wall of the right ventricle The blade was then drawn downward, dividing the lower portion of the heart into two pieces, opening both ventricles The wound was then sutured and the ligature removed One died from the slipping of the ligature, another from sepsis The other four are alive and well to date (three to five weeks) The danger of hemorrhage is much greater after wounds of the right ventricle than of the left The sutures included only the pericardium and the upper muscular layers They must be tied during diastole, as otherwise they tear out The effect of the operation on the action of the heart was first a slight delay in the next systole, then an arhythmia lasting several minutes If the heart wall is punctured or incised very slowly and carefully through the different layers it will be observed that the arhythmia only appears during the injury to the pericardium and the endocardium While the needle is passing through the heart musculature the organ beats with normal regularity —*Cbl f Chir*, October 28

Rehabilitation of Severed Parts —A writer in the London *Lancet*, October 22, refers to certain recently reported cases in that journal, showing the possibility of the restoration of severed parts of the body, even under very unfavorable circumstances He refers to three cases in which the severed external ear was successfully replaced In one the circumstances were anything but encouraging The ear had been bitten off by a horse and was found lying in a stable yard Neither surgical instruments nor antiseptics were available, and a common needle and thread had to be used In the other two cases the surgeon adopted the ingenious plan of keeping the ear warm and endeavoring to restore the circulation by hot salt bags We do not know of any other instances in the attempt to restore severed parts in which this had been done To what extent it is useful it is difficult to say, at any rate it is rational Several cases of union of severed finger tips are recorded In the *Johns Hopkins' Bulletin* (November, 1892), Dr Finney published a case of surgical suture of severed finger tips after seven hours The middle finger was cut off just below the last joint through the phalanx, the ring finger at the root of the nail The raw surfaces were freshened and the tips were attached each by four sutures Dr Finney used antiseptic dressings, but not solutions, because bichlorid of mercury and carbolic acid produce a thin layer of coagulation necrosis The wounds united by first intention In a recent number of the *New York Medical Journal* appears an account of an interesting cure that occurred in the practice of Dr Laurens A colored man, in using a heavy axe, cut through his shoe and severed the metatarsal bone of the first toe through the head, completely disarticulating the toe, and also cut off the second toe in front of the metatarsal joint He was seen four hours afterward The shoe and sock were cut away and the second toe found separated, while the first was hanging by a mere string of skin, every muscle and vessel being cut They were united by interrupted sutures which included the tendons A dressing of iodoform and boric acid, equal parts, was used and a spint was applied The iodoform had to be discontinued before it proved irritating Union by first intention occurred over more than half the wound and there was but little pus when granulation took place On the third day sensibility was present in both toes, and in a week the patient could move them a little Finally, they were strong, movable and sensible, and except for a little tenderness the foot was as good as ever

Brachialgia and Brachial Neuralgia —After eliminating the cases of brachialgia due to rheumatism, myositis, inflammation of the synovial sheaths, an affection of the bones or joints, or to peripheral traumatism Oppenheim has still 189 cases to consider In 15 there was a vertebral or medullary affection (caries, tumor, tabes, glioma), with pain in a single arm In 30 cases there was an evident neuritis, with paralysis and anesthesia, either of an infective or toxic nature in 6 cases it was consecutive to influenza Others were caused by the pressure of a tumor (aneurysm of the subclavicular, sarcoma) In 12 cases it was impossible to distinguish between neuralgia, neuritis, myalgia or some other lesion, and in 22 cases there was neuralgia without a neuritis or lesion of the central nervous system, evidently due to diabetes, gout, alcoholism or an acute affection In 14 cases the pain was only induced by an effort In the principal group, including 96 cases, there was brachialgia proper, with no points distinctly painful to pressure, but rather a psychalgia, consecutive to hysteria neurasthenia, hypochondria, melancholia The cases were chiefly in men, and the pain varied with the psychic condition In some cases the brachialgia was associated with scoliosis These brachialgias had developed after a traumatism In some cases they could be attributed to masturbation, more often to rebellious insomnia The pain in these cases yields to suggestion In one patient who had in vain tried nearly every kind of treatment, it yielded to a single injection of antipyrin Several cases relapsed or resisted all therapeutics Brachialgia should be carefully differentiated from brachial neuralgia —*Rev Gen de Path Int*, November 5

Ovaries and Marriage —The position taken by Mr Justice Hirschberg, in the case of Wendel vs Wendel, as stated in the JOURNAL of September 17 (page 676), does not meet with approval by the second appellate division of the supreme court of New York The latter, referring to the decision below says that it was held that because of the loss of her ovaries the defendant was incapable of conception, and therefore, of "entering into the marriage state " and that while this conclusion is in harmony with those higher ideals of the marriage state, which ought not to be disturbed except upon grave considerations of public policy, it is forced to conclude that the effect of such a rule was not fully considered It goes on to state that it is a fact well known to medical science, and familiar in our common experience, that every woman passes through a climacteric period, usually between the ages of 40 *and 50 years, after which she is incapable of conception*, and yet it has never been suggested that a woman who has undergone this experience is incapable of entering the marriage state, or that she is guilty of any fraud in contracting marriage In this latter case the ovaries are shrunken and contracted to a point where they no longer discharge the functions necessary for conception, and in so far as the reproduction of the species is concerned, the one is as incapable of "entering into the marriage state" as the other There is no essential difference between a woman who, through no fault of her own, has lost her ovaries through a surgical operation, and one who has suffered the same result through the operation of nature and if the one is incapable of entering into the marriage state, the court can conceive of no process of reasoning by which the other may be said to be capable It seems to it clear, therefore, that it can not be held, as a matter of law, that the possession of the organs necessary to conception are essential to entrance to the marriage state, so long as there is no impediment to the indulgence of the passions incident to this state Consequently, it reverses the judgment of the lower court And as to the contention that the defendant was guilty of fraud in not pointing out her exact condition upon being questioned by the plaintiff, the court suggests that he had not availed himself of the means of information within his reach and suggested by what the plaintiff had told him, and, it holds, that cohabitation for a time after learning the facts constituting the alleged fraud must deprive him of the right to have the marriage annulled on that ground

Depositions Taken Before Trial —What it thinks was a novel as well as an exceedingly interesting question was presented to the fourth appellate division of the supreme court of New York, in the recent personal injury case of Ida Green vs the Middlesex Valley Railroad Company It seems that at the instance of defendant the plaintiff was, prior to the trial, required to submit to a physical examination, as provided by section 873 of the New York Code of Civil Procedure The examination was made before a referee, and in the presence of two female physicians, who gave oral evidence before the same referee, and their depositions thus taken were offered in evidence upon the trial In each instance the offer was objected to upon the ground that the depositions could not be read in evidence, save in the absence of the witness and that the witnesses were then present in court under subpena The trial court overruled the objections and permitted the depositions to be read, which ruling was duly excepted to, raising the question referred to The section of the code mentioned the appellate division says is part of a general scheme provided by the legislature for the examination of parties before trial, and as amended in 1893, it was obviously intended to establish a rule of procedure by which, in cases of this character, a defendant could ascertain the nature and extent of the personal injuries from which the plaintiff claimed to be suffering, and thereby enter upon the trial of his case with some knowledge of what he would be called upon to meet The method by which information was to be obtained was not clearly defined by the statute, but it seems to be now settled that the physical examination which it contemplates is but a part of the examination of the party before trial, and that it is to be conducted by the oral examination of the plaintiff, as well as of the attending physicians But when this much has been accomplished, the question naturally arises as to how far, and under what circumstances, the depositions thus taken are competent evidence upon the trial The view of the trial court, as applying to this case, has been referred to But the appellate division does not concur therein, although it has been judicially stated that the record of the examination, which is placed on file, may be introduced in evidence, and section 881 provides that the deposition, or a certified copy thereof, may be read in evidence by either party at the trial In section 882, it finds a limitation, which leads it to hold that it is not until a party has shown his inability to produce the witness upon the trial, in order that the jury may have the benefit of an examination of the latter conducted in open court, that he will be permitted to read his deposition, and that therefore the defendant in this case had a right to insist that the attending physicians should be required to give their evidence in the same manner as would have been the case had their depositions been taken separate and apart from the plaintiff's physical examination

Christian Science—The *Chicago Standard* has entered a protest against a continuation of the immunity from prosecution for their crimes which the "Christian Scientists," thanks to a general misunderstanding and misapprehension of the phrase "religious freedom," now enjoy and abuse in this and many other countries The idea that any unfortunate victim of mental and physical lesions, or any shrewd and conscienceless exploiter of human credulity, can defy the law and practice the rites of any cult, no matter how degrading, vicious or dangerous, provided the dupe or the knave takes the precaution to call the cult a "religion," is, of course, a wild absurdity, a delusion which has no basis in reason or the statute books "The law," declares *The Standard* with perfect accuracy, "can not interfere with religious opinions unless they lead to infractions of well known principles of morality and public policy, but in such cases it should act promptly Mormonism encounters the law when it leads to polygamy 'Christian Science' should feel the law's restraint when it leads to suicide and manslaughter" That it does both in many instances, is known to everybody who has paid even slight attention to this monstrous and horrible fraud The case of Harold Frederic is at once maddening and pathetic All his years the man had lived and fought for the realities, the sanities, and the honesties of life Finally a cell or a duct in the over worked brain gave way and left him temporarily and partially incapable of distinguishing between the true and the false Nature, aided by science, would have soon repaired the injury, but at the moment when the clear eyes were darkened and the strong mind was helpless, a miserable creature appeared, stretching out rapacious hands for the sick man's gold She got it, and Harold Frederic is dead There is ground for hope, however, that this is not quite the end of the tragic episode The woman who killed Mr Frederic has confessed her utter lack of legal qualifications to act as a doctor, and that she accepted fees for treatment Counsel for the executors warned her, while she was testifying before the coroner's jury, that she was in a "serious position" If England has any justice, she will soon be in a prison, and stay there for a very considerable period Would that every one of her rivals might bear her company

The High Grade Modern Hospital—Dr Stephen Smith writes of the new era of hospitals and dispensaries They are no longer regarded as for the sick poor alone, or for the stranger within our gates alone, but for any sick person, be he poor or rich, old or young, whose malady falls within the range of a large class of diseases During the first half of the present century the State of New York had but one well organized hospital, the century will close with not far from two hundred such institutions, upward of ninety of which are located within the limits of the Greater New York The modern hospital is constructed on the segregate plan, which so isolates the various parts and rooms that ventilation of one room into another is, as far as practicable, prevented The modern operating room is located, constructed, and managed so as to secure the most perfect purity of the air and the most absolute cleanliness Skilled service is everywhere required The resident medical staff is selected after competitive examination, the apothecary is a graduate of a college of pharmacy, the head of the kitchen is a *chef*, the matron is a trained nurse But perhaps the reform in hospital management which has wrought the most salutary results is found in the department of nursing Today the nurse of the most ordinary hospital is a person of good education, of the most pronounced correct habits, familiar with the import of those symptoms of those diseases that indicate an emergency, reliable in the use of remedies, and skilled in all the arts of relieving the sick by manipulation In view of the imperious demands of modern medicine for the best possible hygienic conditions surrounding the patient, for perfect antisepsis in all surgical operations, for the greatest precision in all the details of nursing, it is very gratifying to be able to record the fact that the public is responding cheerfully and generously to these requirements upon it for financial resources Hospitals of the highest type of excellence are appearing in every community, not only for general disease, but for every variety of human affections which can by any means be better treated in hospitals than at home—*Charities Review*, November

State Care of the Insane in Indiana—The State of Indiana needs more room in her hospitals for the insane, they are not quite big enough and never have been, notwithstanding the expenditure within fifty years of $3,000,000 on their development, and a present capacity for 3300 inmates The population of the State now amounts to 2,900,000, the number of insane is 4200 Nothing seems to be more disquieting to the average citizen than a call for increase of hospital capacity for the insane Forthwith it is assumed that mental disease, if not epidemic, is certainly spreading Commonwealth and citizens should remember that change makes change, that as population thickens the defective element at least maintains its ratio if it does not exceed it, that a ratio must be met, rather than a fixed number, and that the hospitals for the insane should have always a bed ready beforehand for the unfortunate one out of 400 or 600, as the case may be In every community this is a permanently increasing demand The prompt and proper care of the insane can only be cured by a wise, liberal and timely adoption of the above policy This is the humane way of looking at the question Prevision is needed as well as adequate provision—Dr J G Rogers, in the *Charities Review*, November

The Drug Trade in Europe—An interesting volume of 417 pages has been issued by the Bureau of Foreign Commerce of the United States Department of State, which is a mine of information regarding the conditions of the drug trade in foreign countries The sponsor of this collection of consular reports Mr Joseph Jacobs, a pharmacist of Atlanta and chairman of an important committee in the American Pharmaceutic Association, requested the Department of State to submit a series of questions relating to drugs, chemicals, proprietary articles, drug stores, pharmacies, laws governing the practice of pharmacy, etc , to the consular officers of the United States in foreign countries The responses constitute a volume of great interest and value, which will undoubtedly receive much notice, here and abroad, and will serve as a record basis for a long time to come In Austria, for instance (and in Germany the conditions are very similar), "the law distinguishes between a druggist and a pharmacist, and draws a line between the two which neither is permitted to overstep" The druggist conducts a shop something on the plan of the average drug store here, but the pharmacist requires a university diploma, and can conduct a pharmacy only if he acquires a "concession" The concessions are limited, and attach to a location or are hereditary, a new concession is granted only on the basis of a location distant at least nine and a half miles from the nearest similar establishment, and provided a population of 4000 or more people is tributary to it This is fine protection for the owner of a concession In Germany no person can practice pharmacy until he has passed his "state examination", a foreigner, with a foreign diploma, must pass this examination (requiring academic accomplishments) before he can even become an assistant in a pharmacy The native candidate, having passed through high school and with a thorough knowledge of Latin, serves three years as apprentice, then three years as assistant in an authorized pharmacy, then three semesters devoted to theoretic study in a German university, and then he is qualified to attempt the final state examination There is some difference, evidently, between an average "drug clerk" and a German *apotheker* who has passed the examination —*American Therapist*, October

Gleanings —Impermeable stricture of the esophagus consecutive to swallowing "caustic soda," cured by retrograde sounding through a gastrostomy incision (*Munich Med Woch* , November 15)——Fatal case of rupture of the spleen in typhoid fever Weighed 600 grams (*Tidsskrift f d Norske Laeg* , November 1)——Carcinoma of the right suprarenal with metastases in the liver, lungs, etc , and the rare picture of a metastasic carcinomatous hemorrhagic fibrinous pericarditis——Case of rupture of the uterus, related by Heissler in which the ruptured ring shaped lower segment of the uterus was expelled (*Munich Med Woch* , November 15)——Bruns reports 81 subperiostal amputations of the leg with extremely favorable functional results and gangrene of the flap in only three cases (*Beiträge z Klin Chir* , xxii, 2)——Vienna has no crematory, and consequently the request of Dr Müller, the devoted victim of the recent plague epidemic there, that his body be cremated to avoid further infection, was necessarily disregarded, as transportation to a distant crematory was out of the question ——Cystoma removed from a woman of 38 years, containing thirty four liters of fluid The circumference of the abdomen at the level of the umbilicus was 152 c Prompt recovery (*Revista de Med y de Cir* , October 25)——One or two drops of bile introduced under the dura in rabbits through a trephining opening, produce symptoms of severe intoxication , the animals run around and when they fall from exhaustion continue the motions of running (*Klin Woch* , November 13) ——Chronic constipation cured with massage of the hepatic region, especially of the gall bladder (*Gaz Méd Liège*, November 10)

Societies

The following recent meetings are noted

Illinois —Rock River Medical Association, Sterling, November 22 , Will County Medical Society, Joliet, November 22

Indian Territory —Indian Territory Medical Association, Wagner, December 6 and 7

Michigan —Saginaw County Medical Society, Saginaw, November 25

Minnesota —Ramsey County Medical Society, St Paul, November 28

Missouri —Medical Society of City Hospital Alumni, St. Louis, December 1

New York —Medico Chirurgical Society of Central New York, Syracuse, December 1

Pennsylvania —Clinton County Medical Society, Lock Haven, November 18

Texas —South Texas Medical Association, Houston, December 8

Detroit

Appointments —Drs W R Henderson and G P Johnson of Detroit have been appointed by the Wayne County auditors to act as county physicians for the ensuing year

Health Report —For the week ending December 3, there were Deaths 76, under 5 years 18 Births, female 18, male 34 Contagious diseases Diphtheria, 20, recovered 9, new cases 14, 2 dead , 23 now sick, scarlet fever 29, recovered 6, new cases 14, 37 now sick , smallpox 1

Louisville

Duncan — Dr Ellis Duncan has just been appointed as superintendent of the Louisville City Hospital, vice Dr P C S Barbour, deceased Dr Duncan is a young man, but thoroughly qualified to undertake the duties, having assumed the duties of the office during some of the time that Dr Barbour, his father in law, was incapacitated Dr Duncan has but recently returned from Porto Rico, where he went as assistant surgeon to the First Kentucky Regiment (Louisville Legion), returning on sick leave He made an enviable record with the regiment He has also been appointed as assistant to the chair of abdominal surgery and instructor in gynecology in the Kentucky University Medical Department

Green —Dr Waller O Green has been appointed a clinical professor of diseases of the rectum in Kentucky University Dr Green was for several years the chief of the rectal clinic of the out patient department of the Kentucky School of Medicine

Health Report —Health Officer Allen has just made his report for the month of November There were 326 births for the month, 181 males and 145 females, 299 white and 27 colored , there were 319 deaths and 69 marriages The physicians to the poor made 483 visits , 111 nuisances were abated, and 336 animals were removed by the dead animal contractor Forty eight cases of scarlet fever were placarded and 35 cases of diphtheria One hundred and forty five vaccinations were made by the department, and a number of examinations of milk made, only two of these falling below the standard In concluding his report, Dr Allen expresses his satisfaction on the passage of the ordinance requiring the reporting of typhoid fever and whooping cough and consumption, and expresses the desire that a competent veterinarian be appointed as live stock inspector

Denver

Health of the City —Cases of infectious and contagious diseases reported during the month of October Diphtheria 53, with 7 deaths , scarlet fever 25, no deaths , typhoid fever 22, with 9 deaths , total number of deaths 158, of which premature and still births were 15 , cases of phthisis contracted elsewhere 24 , death rate per 1000 per annum 11 25 , death rate per 1000 per annum, excluding phthisis contracted elsewhere, 9 63

Meteorologic Summary for October —Possible hours of sunshine, 345 total hours of sunshine, 280 , mean barometer, 24 771 , mean temperature, 49 , total precipitation, 1 05 , mean relative humidity, 41 0, number of clear days, 16, partly cloudy, 11 , cloudy, 4

Popular Lectures —Dr Mary C J Love, the Chairman of the Department of Health and Hygiene of the Woman's Club of Denver, has arranged a series of lectures to be given during the winter by local physicians on the following subjects "The Nervous System," S D Hopkins , "How We Breathe and How Our Blood Circulates," Josephine Peavey 'Intelligent Womanhood," M C T Love , "Foods, their Chemic Significance and Values," Henry Sewall "Nutrition and

Feeding of Young Children," Eleanor Lawney, "Puberty and Adolescence," Mary Barker Bates, "Diseases of the Will, and Power of Suggestion, Hysteria and Hypnotism," J T Eskridge, "The Eye and the Ear, their Care and Protection in the Young," Jean Gale, "Women as Mothers," M C T Love, "Sanitation and Hygiene of Home," W P Munn, "How Much Physiology and Hygiene Shall be Taught in the Higher Grades of Public Schools—Shall Men and Women be Employed to Teach Physiology to Unmixed Classes?" Leonard Freeman, Mary H Barker-Bates

TO PREVENT THE SPREAD OF CONSUMPTION —The City Improvement Society of Denver has sent out the following note to all physicians residing in the city "Realizing that physicians can do more than any one power to prevent the spread of consumption, and to insure sanitary reform in the matter of non expectoration on the sidewalks, to the physicians of the city we therefore appeal for co operation, that by instructing their patients not to spit on the sidewalks we may have a cleaner and more healthful city " City Attorney Norris has prepared a bill, as follows

Be it enacted by the city council of the city of Denver

Sec 1 *It shall be unlawful for any person to spit upon the* floor, or any part of any street car or elevator, within the city of Denver

Sec 2 Any person violating the provisions of this ordinance shall upon conviction be fined not less than $3 nor more than $5 for each offense, and the conductors of all street cars and the pilots of all elevators are hereby authorized and empowered to enforce the terms of this ordinance

Washington

REPORT OF THE HEALTH OFFICER —The report of the health officer for the week ended November 26, shows the total number of deaths to have been 92, 52 white and 40 colored The principal causes were Apoplexy, consumption, diphtheria, diseases of brain, heart and kidneys, pneumonia, typhoid fever There were 97 births, 61 white and 36 colored At the close of the week there were 127 cases of diphtheria and 117 cases of scarlet fever under treatment The special report on the death from yellow fever shows that the death from this disease, which occurred on the 18th ult , was the first ever recorded in the District of Columbia The deceased was a civil engineer and arrived in New York City, on the steamer *Allegheny*, November 16, from Greytown, Nicaragua, via Port Limon, Costa Rica, an infected port The steamer touched the latter port November 7, and during the voyage the deceased was taken sick, but was able to pass the quarantine officers at New York City, arriving at Washington November 16, where he registered at a hotel, going immediately to his room At three o'clock on the morning of the 18th, his condition attracted the attention of the hotel authorities, who summoned medical aid Dr A Barnes Hove, formerly resident physician of the Emergency Hospital, responded, and upon seeing the black vomit and learning that the patient had been in a port infected with yellow fever, suspected the infectious character of the disease, and called consultation, which resulted in the positive diagnosis of yellow fever The urine showed the presence of albumin, without casts, and an examination of the blood failed to determine the presence of a malarial parasite The patient died comatose at two o'clock the same day The postmortem held showed the characteristic lesions of yellow fever The health officer does not anticipate the development of other cases in the District at this season The usual newspaper excitement followed the report of the case, and as a result the nature of the disease has been discussed pro and con

GEORGETOWN UNIVERSITY HOSPITAL —Donation day at the new Georgetown University Hospital proved to be a great success The friends of the Institution, and those interested in the care of the sick poor, sent large donations of money, food, medical and hospital supplies, all of which were gratefully received by the hospital authorities

TO REGULATE DENTISTRY —The dentists of the city have prepared a bill to further protect them in the practice of their profession, and will submit the same to Congress for action in the coming session The bill provides for a local board of examiners to make rules and regulations, and pass upon the fitness of those applying for a certificate to practice dentistry in the District It is proposed in the bill that examinations be held in June and December, and it provides that no corporation, not incorporated by Act of Congress, shall practice in the District without special permit from the Commissioners A fine of $30 is provided for violations The Board will consist of five reputable resident dentists who shall elect their own officers and issue all licenses to practice It also provides for the revocation of license, for just and sufficient cause

Dr IRVING C ROSSE sailed for Europe on the 26th ult , for a few weeks' vacation

Dr J J ULLOA, of Costa Rica, and Major John V R Hoff, U S A , of Pan American fame, are visiting the National Capitol Dr Ulloa is with the Costa Rican President, now on official visit to the U S Government

BOARD OF TRADE OF WASHINGTON —At the meeting of the Board of Trade, held on the 30th ult , Dr W W Johnson was appointed Chairman of the Committee on Public Health and Dr H L E Johnson a delegate from the Board to the meeting of the National Pure Food Congress which convenes in January next

London

A MOST remarkable and, from a medico legal point of view, most important case, was reported to the Hunterian Society, on November 23, by Mr J H Yargett The stomach and esophagus of a child, at ten months, were shown, containing rather unusual foreign bodies The patient had been brought to the hospital suffering from severe dyspnea and dysphagia, with a history of having suddenly choked while eating a piece of brown bread Exploration with the finger and probe revealed nothing that would account for the dyspnea and, thinking that the fragment of crust probably present in some pouch of the esophagus, would soon soften the child was kept quiet and carefully watched In a short time the dyspnea subsided, although the dysphagia persisted, but the child seemed unaccountably weak and depressed, symptoms of broncho pneumonia developed and it sank rapidly, and died in three days

At the necropsy, the lungs were found extensively consolidated and the bronchial passages full of bloody mucus and muco pus Upon opening the stomach, two small corks were found, of about the size which would fit an ordinary two or three ounce bottle, and it was naturally supposed that one of these had injured the pharynx in swallowing and given rise to the trouble

But when the pharynx was laid open to discover the site of the abrasions the knife struck upon a much larger cork, completely imbedded in a pouch upon its posterior wall The cork was of the ordinary cylindric shape, one and one fourth inch long by three fourths of an inch thick, and was so deeply sunk in the wall of the pharynx, just at its junction with the esophagus, that its anterior border barely projected into the cavity of the gut The singular thing was that so large a foreign body could have formed a pouch in the wall of the pharynx and passed out of its lumen so quickly, so as to permit the passage of a probe, and even the taking of a certain amount of milk shortly before the child's death

But the most interesting developments occurred at the inquest It was discovered that the mother of the child had lost no less than five other children under two years of age, all of whom had been insured, as was also the case with the infant under consideration Neither the mother nor the nurse in whose care the child was left during the day could give any light as to how the corks came there, on the contrary, they vehemently repudiated the suggestion that it had ever had corks or bottles to play with, and even declared that there were no corks in the house and had not been for weeks! In spite of these facts, however, the sapient twelve declined to see anything suspicious in the case, and one of the jurymen gravely suggested that the corks might have got into the gullet by the doctor, who saw the child before it was taken to the hospital, using them to prop the child's mouth open while he examined it! Another nineteenth century Newton was sure that, a hospital being a place where sick folk did congregate there must have been plenty of medicine bottles about from which the child could easily have gathered two or three corks And with that low distrust of our profession which marks the vulgar mind, several witnesses had to be called and examined to disprove these asinine suggestions

Finally, the "bulwark of our liberties" got itself delivered of the illuminating verdict that the child came to its death by means of corks in its stomach and gullet, that there was no evidence to show how the corks were introduced, but that the jury were of the opinion that they were in the child before Dr —— was called to attend it!'' Comment is superfluous, but it would be well for the profession to bear this new possibility in mind in cases of sudden death in heavily insured children

Philadelphia

Returned —Dr John Packard, who has been spending the past few months in Europe, arrived home during the past week

Improving —Prof John Ashhurst, who has been confined to his bed for the past few months, from two mild attacks of apoplexy, is now greatly improved and hopes are entertained for his complete recovery

Convalescent —Dr William Pepper, Jr , who has been suffering from typhoid fever for the past few weeks, at the University hospital, is now convalescent He will leave about December 10 for a trip to Europe

Physician Injured —Dr Robert M Given, a member of the medical staff of the Pennsylvania Hospital, was recently thrown from his carriage, sustaining several lacerated wounds of the face and contusions The coachman sustained a fractured leg

Mortality Statistics —The number of deaths during the week just closed was 399, a decrease of 50 over last week and an increase of 8 over the corresponding week of last year Of the total number of deaths, 118 occurred in children under the age of 5 years

Health Officer and Quarantine Physician —Owing to the results of the recent election and the selection of Governor Stone the two above named positions will be left open unless the present incumbents are reappointed The health officer of this city receives a salary of about $7100 annually, while the quarantine physician receives $5000

Sterilized Milk Society —The Sterilized Milk, Ice and Coal Society, through its founder, has asked for contributions in order to carry on its work during the coming winter When it is considered that through the influence of sterilized milk the death rate of children is greatly reduced, it will be seen what an instrument for good this Society may become

Memorial Meeting —A meeting commemorative of the life and works of the late Dr William Pepper was held in the chapel of the University of Pennsylvania November 29 The committee having the matter in charge was composed of representatives from the University of Pennsylvania, American Philosophical Society, Franklin Institute, Academy of Natural Sciences, and other public institutions of the city Governor Hastings presided, and speakers were present to represent the different institutions with which Dr Pepper was identified

Smoker to University Alumni —The Alumni Society of the Medical Department recently gave its semi annual "smoker" A spirit of patriotism pervaded the banquet hall and Dr John Guiteras spoke in glowing terms of the victorious army, while Dr Edward Martin complimented the "woman nurse," who did much to lessen the pangs of disease and keep down the mortality

Football Casualties —One of the papers here has kept a list of the casualties reported during the past year, as follows Number of collar bones broken, 5 , legs broken, 4 , ribs broken, 4, skulls fractured, 3, torn ligaments in leg, 3, shoulders broken, 2, besides broken nose, concussion of the brain, ruptured kidney, broken wrist, collar bone dislocated, knee dislocated, cartilage of ribs torn, ankle broken, and thumb broken Internal injuries and twisted legs are hardly considered as casualties

Diphtheria Common —The northern section of the city, particularly around Nicetown, is being stirred up over the spread of diphtheria among school children Investigation recently made showed that several children attending St Stephen's Roman Catholic church were suffering from the disease, and one had died, while at the Asa Packard school two deaths had occurred It is stated that the greatest care is taken at the schools to prevent the disease from spreading, and that upon the first observance of any complaint the children are immediately sent home with a note to call in a physician Several children attending the Cayuga school have also been afflicted with the disease Dr Charles S Means, a member of the Common Council, recently introduced a bill providing that all the children who attend the public schools of this city, after Jan 1, 1899, shall be injected with antitoxin, for the purpose of immunization from diphtheria, and further, that the Director of Public Safety be directed to instruct the Medical Inspector of the Board of Health to enforce the provisions of this ordinance

Government Allowance for Sick Soldiers —At a recent meeting in the rooms of the National Relief Association several representatives of the hospitals took the position that since the hospitals volunteered to care for the soldiers, therefore they would accept no compensation whatever Major Peyton, who has charge of all sick soldiers in Pennsylvania, stated that the Government was unwilling to accept charity for its soldiers and desired to pay all who have had charge of the work Those hospitals and other organizations who have defrayed the expenses of hospital trains to Camp Meade and elsewhere will not be reimbursed for the outlay It was finally agreed that the Government would pay the hospitals at the rate of $1 00 a day for each sick soldier A vote of thanks was passed for the courteous treatment given the hospitals by the War Department, as well as to Major Peyton, the representative of that Department

Finance Committee —The Finance Committee of the city council has been working at the usual budget of expenditures for the coming year, but about the only two items of interest to physicians are the salary attached to the position of physician to the county prison and appropriations for charity and corrections It seems that the actions of prison inspectors have been called in question relative to the fact that Dr Butcher s salary as physician has been raised from $1500 to $1800 a year The increase was referred to a sub committee As to charities and corrections, the department has asked for an increase of $60 000 for the purpose of enlarging the insane department of Blockley Hospital While the appropriations for the Bureau of Charities and Correction were $181,968 in 1898, it is hoped that $597,918 will be appropriated for the coming year

Germantown Children's Hospital.—The board of managers of the Children's Hospital of Germantown is still busily engaged in raising the necessary funds for the establishment of the institution on a firm basis An appeal for contributions has been made with a liberal response It is now proposed to raise sufficient funds for the present needs by giving a series of entertainments, and up to date arrangements have been completed for this purpose

Soporific Reform —Whether or not the cares and vexations incidental to public and private receptions are conducive to long existence may be demonstrated by the soporific reform recently set on foot in a neighboring city and taken up by society dames in Philadelphia At any rate, many leading lights in upper tendom applaud the movement and say, "give us more sleep" While at present the movement is only a fad, in time it may prove to be beneficial, not only to the devotees, but to posterity as well

Contributions to the German Hospital —While Donation Day was most inauspicious for visitors, a number of contributions were received by mail, which makes the record compare favorably with that of former years The donations consisted of a large quantity of groceries, boots, shoes, dry goods, etc, and $7,294 36

Presbyterian Hospital —Owing to the fact that this hospital has been lately taxed to the utmost in caring for charity cases and soldiers, and to meet the expenses brought about by the construction of new operating rooms, a receiving ward, and the Dulles' memorial ward, it asks for an increase of income amounting to $20,000 In the appeal it is stated that $250,000 added to the permanent funds of the hospital would enable them to make good use of all appliances and to meet the more pressing demands made upon the service

National Relief Contributions —Mr George C Thomas, treasurer of the National Relief Association, makes the following report Cash previously acknowledged, $78,487 29, cash and supplies, $769 19, value of supplies to date, $40,345, grand total, cash and supplies, $119,601 48 At a recent meeting of the Executive Committee, officers were notified that they would soon be expected to file their reports, to be turned over to the Government Governor Hastings made a speech and tendered thanks to the Commission in behalf of the State for the excellent service they had rendered It is stated that 431 families and 1386 individuals are still being cared for by the Commission A list was also made of the number of soldier patients admitted to the Philadelphia hospitals to date, there being 2238 men, with 108 deaths

Of Medico Legal Interest —A case which has attracted considerable public interest is now being tried in the court of oyer and terminer in this city Mrs Mary E Zelner stands charged with poisoning her aged husband At the trial expert witnesses were present to give testimony regarding the nature of certain drugs apt to cause the symptoms and pathologic conditions set up by certain persons Dr John Marshall, dean of the medical faculty of the University of Pennsylvania, was one of the first witnesses and stated that he had been supplied with portions of the liver, brain, intestines and muscular tissue of the exhumed person, and that over half a grain of strychnin had been thus obtained from these tissues, which he thought was consistent with a poisonous dose of the drug Dr Henry W Cattell, coroner's physician, testified that he had conducted a postmortem examination Dr Horatio Wood was then called, and in reply to a question by the district attorney, stated that he was thoroughly acquainted with the effects of strychnin Having heard the testimony of previous witnesses that the drug had been found in the tissues of the body exhumed, he thought it practically certain that only a small proportion of the poison had been obtained On cross examination his testimony remained unshaken

Uncommon Cause of Death —Paul Miller, a child 6 years of age, while feeding chickens, placed a grain of corn in his mouth It descended into the trachea, all efforts to remove it were futile, and death ensued

Overcrowding of Insane —While the accommodations at Blockley Hospital were originally intended for only 1000 persons, there are at present 1400 insane confined within the different wards

Convalescent Typhoid Patients —Nine soldiers who have been treated for the past few weeks for typhoid fever, at the Presbyterian Hospital, have been discharged The men were brought to this city during the month of October from Camp Meade

Race Question Raised —Students of the Jefferson Medical College have passed a resolution providing that a committee be appointed to determine whether or not there is a gentleman not altogether white who enjoys the facilities offered by that time honored institution If such is the case an earnest protest will be made to the dean

Diphtheritic Paralysis —George Cromm, a child four years of age, after eating a piece of scrapple, suddenly died A history of having recently suffered from diphtheria, and a subsequent necropsy, led the coroner's physician, Dr H W Cattell, to the belief that death resulted from diphtheritic paralysis

Contribution to University Library —Dr S Weir Mitchell has presented to the university library two very important historic documents which have come into his possession The documents were given Provost William Smith, conferring upon him the power to collect funds for the College and Academy of Philadelphia (now the University of Pennsylvania), also to James Jay power to collect similar funds for the College for the Province of New York (now Columbia University) One is dated April 30, 1764, and the other March 13, 1762 The documents are signed by the Archbishop of Canterbury, Archbishop of York, Lord Bishop of Winchester, Provost Smith and the Rev Dr Chandler Various receipts are attached showing that in one instance a contribution of £500 was made by Thomas Penn

Smallpox —Five cases of smallpox are reported For several months past urgent measures have been made to determine how many school children were properly vaccinated in order to keep down epidemics of this kind, but the law has been much evaded The school authorities of the immediate neighborhood have been notified so that the proper precautions may be taken

Unwholesome Meat Supply —At a meeting of the Woman's Health Protective Association, Dr W Horace Hoskins, president of the Veterinary State Board of Examiners, is quoted as saying that a thorough inspection has revealed the fact that meat supplied to this city is frequently unwholesome, in other words, that Philadelphia is a dumping ground for "worn out cows"

Asylum Pollutes Schuylkill —At the last meeting of the trustees of the State Hospital for the Insane, Dr Benjamin Lee secretary of the State Board of Health stated that from his investigations, made some time ago, it was found that deleterious material from that institution was allowed to flow into the Schuylkill, and he therefore requested that the condition be relieved The secretary of the trustees, however, made reply that the Board was powerless to remedy the evil on account of lack of funds It is now stated that the whole question will be carried before the State Legislature in order *that a proper bill may be passed to abate the evil*

CHANGE OF ADDRESS

Comstock H C from Sioux City Iowa to Hutchinson Kan
Corkery T L from Fairfield Ind to Wilmington Ohio
Chaddock C G from 2906 to 511 N Garrison Ave, St Louis Mo
Crandall G C from 610 to 511 N Garrison Ave St Louis, Mo
Formaneck F from Chicago, Ill to Wahpeton N C
Lincoln B S from Chicago Ill to Missouri City Mo
Lawrence, A A, from Exeter, N H to Millville Mass
LeMoyne, F, from Port Hope Can to 5431 5th Av Pittsburg, Pa
Moore A H from Grand Av and Hawthorne to Dekum Bldg, Portland Oregon
Meek J H, from Smithfield to Glencoe Ohio
Michael, L F, from Cheyenne Agency, S D to New Ponca, Okla Ter
McNicholl T A from 140 E 39th St to 1919 7th Av New York City
Stevens G H from Hotel Madison to 1819 Adams Toledo Ohio
Thomason H D from Missoula Mont, to 10 N S Cal, Huntsville, Ala
Turner R L from Ellisville to Meridian Miss
Wray W E from Jacksonville Fla to Janesville Wis
Williams R F, from Warm Springs to 508 Grace St Richmond, Va
Wilson E R, from Sidney to 33 Gill St, Columbus Ohio

LETTERS RECEIVED

American Press Clipping Bureau Chicago
Bishop L F New York City Briggs W A, Sacramento, Cal, Brown, Sanger Chicago Bell C Indianapolis Ind
Cheek J M Highgate N C Corr A C, Carlinville Ill
Dinwiddie, R R Fayetteville Ark Davis G W San Francisco, Cal
Ellett E C Memphis, Tenn, Eastman, J R, Indianapolis, Ind, Eshner A A Philadelphia Pa
Farrington, J M Binghamton, N Y Fryer, B E Kansas City, Mo Foor & Kinney Columbus Ohio
Graham D Boston Mass
Hohn, Geo A & Bro Mansfield Ohio Hill, W H Gentryville, Mo Hubbell A A Buffalo N Y Holmes Bayard, Chicago
Kalousdian N M Malden Mass
Lichty, D Rockford Ill Lusk Z J, Warsaw N Y
Morris, Robert T New York City
Overall G W St Louis Mo Opitz Russell B University of Breslau, Germany
Pearce F Savary Philadelphia Pa Preston C H, Davenport Iowa, Parsons O M Rosby's Rock, W Va
Register E C Charlotte N C Riggs C E St Paul, Minn
Saunders W B Philadelphia Pa
Thompson J A Cincinnati Ohio Taylor L G, Perryville Md, Thorington J Philadelphia, Pa Tuley H E, Louisville Ky
U S & Canada Mercantile Agency Chicago U S Express Co, Philadelphia Pa
Wiggin F H, New York City Woodson R S, Holguin Cuba

The Journal of the
American Medical Association

Vol XXXI CHICAGO, ILLINOIS, DECEMBER 17, 1898 No 25

ORIGINAL ARTICLES.

THE DIETARY OF HEART DISEASE

Presented to the Section on Physiology and Dietetics at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo , June 7 10 1898

BY ROBERT H BABCOCK, A M , M D
CHICAGO

Nothing is more important in the management of cardiac affections than the regulation of the diet, which should include the determination of the amount as well as the quality of the food ingested At the very outset we are confronted by certain perplexing problems that arise from circulatory disturbances in the digestive organs and by want of definite knowledge concerning alterations in secretion and absorption brought about through venous stasis It is still more complicated because of alteration in the metabolic processes incident to changes in the blood-supply of the various organs and tissues Indeed, the problems confronting us are so complex and have been so inadequately worked out as yet by physiologic chemists that, even were there no time limitations to this paper, I could not hope to do more than consider this subject very superficially

In the first place, what are the effects of passive congestion on the digestive viscera? From analogy with the effect of stasis on secreting organs, as the kidneys, it is likely that the digestive juices are changed in both amount and quality Even if the chemistry of these secretions were not altered, the catarrhal swelling of the mucous membrane induced by passive hyperemia would hinder the free flow of the bile and pancreatic juice into the duodenum, which, together with the collection of thick, tenacious mucus in the stomach, would interfere with the proper digestion of the food Moreover, the congestion, and in advanced cases, the edema of the walls of the hollow viscera, impedes or abolishes their proper peristaltic movements This renders decomposition of the ingesta unavoidable under the influence of heat, moisture and micro organisms introduced with the food The various acids, fatty and otherwise, thus engendered still further irritate the gastroduodenal mucosa, while the gases of decomposition still further distend these viscera Thus a vicious circle becomes established that augments the evil primarily attributable to disturbed circulation This is by no means the only aspect of the case, toxins are developed which must either be destroyed in the liver or pass through into the general blood stream and exert their noxious effect upon the heart and nervous system We are apt to dwell chiefly on the mechanical disturbances arising in the stomach and intestines, yet the pancreas is an organ that must suffer greatly in function What modification of its secretion takes place we do not know, yet clinical observation seems to justify the inference that the amylopsin and fat-splitting ferment are more unfavorably influenced than is the proteolytic ferment Nevertheless, it would be unreasonable to assume that this escapes altogether Pancreatic digestion is undoubtedly impaired, and consequently the portal vein carries to the liver a mass of toxins together with the products of incomplete or faulty digestion

This brings us to the most difficult, because the most obscure part of this complicated subject—the effect of passive hyperemia on the liver This organ differs greatly from other glands, since its functional activity does not depend wholly on its arterial blood supply, but is determined in large measure by the character of the blood in the portal vein and the activity of its flow To give an illustration The constitution of the bile and the rapidity of its secretion depend upon its absorption from the intestine and its return to the liver If, now, in consequence of stasis in the gastroduodenal and other veins that empty into the portal vein, the bile discharged into the duodenum be returned slowly and inadequately to the liver, the bile thereafter secreted will be watery and deficient in mineral matters And although the secretion of this fluid is but a minor part of the hepatic function, deterioration in quality and diminution in its quantity exert a baneful effect upon the intestinal contents Again, if in consequence of defective gastrointestinal digestion the portal stream be loaded with toxins and the products of such faulty digestion, it is reasonable to assume a resulting derangement in the elaboration of urea and the manufacture of sugar, etc Very probably also the ability of the liver to cope with toxins will be impaired and numbers of them will pass through into the general system The anemia so commonly shown by cardiac patients seems to me not unreasonably explicable on the hypothesis that the liver is unable to utilize nucleo-albumins in the manufacture of iron, as well as that the hemoglobin is destroyed by some ferment generated in the intestines Patients with heart disease are frequently found to suffer with symptoms of Haig s uric acidemia, and Husche has demonstrated an accumulation of uric acid in the system during loss of compensation, and on the other hand, an increased elimination of it after restoration of compensation This accumulation of uric acid must depend upon lessened or altered cell activity, as would be naturally expected to result from impaired circulation Oxidation is defective, partly through reduction of hemoglobin, partly through sluggish capillary circulation and hence, another factor in the derangement of the metabolic processes On every side therefore, we encounter problems of nutrition which we are not able to solve, yet which we must meet in the dietetic management of our cardiac patients Evidently all we can do is to work along lines conforming with well established principles

It is presupposed that the foregoing considerations do not apply with equal force to all cases of heart disease, inasmuch as the same lesion does not always manifest equal severity of symptoms, any more than do the different lesions Therefore it is not necessary to enforce rules of diet with equal rigor in all cases Broadly speaking, therefore, it will suffice to divide all cases into two groups, the one in which compensation is preserved, the other in which it is lost, more or less completely Although carefulness of diet is advisable, even in the former, to preserve the heart from still further danger, still, considerable latitude may be permitted, but so soon as a loss in the equilibrium of the circulation becomes apparent, dietary restrictions should be enforced The remainder of this paper is intended to apply particularly to patients whose cardiac weakness necessitates strict medical supervision

When appetite flags and the patient can not eat heartily at the regular meal hours, it is usual for the physician or friends to think his meals must be reinforced by milk, eggnog and the like, midway between In some instances nourishment is administered every two or three hours Such is undoubtedly a mistake The congested and perhaps edematous walls of the stomach can not by energetic peristalsis empty the chyme into the duodnum as rapidly as normal, and the conditions for decomposition are so favorable that, if additional food be taken before the stomach is ready for it, serious disturbances are sure to result A feeling of faintness or craving at the epigastrium, often described as an "all gone feeling," may be mistaken for an indication that food is needed, and as these patients are often tormented with thirst, liquids of all kinds are poured down into the already distended and irritated viscus at irregular intervals Abdominal distension, eructations, flatulence and increased dyspnea add to the patient's distress The first rule, therefore, should be to make five and a half or six hours elapse between the taking of solid food, and this should include milk, since by curdling in the stomach it is converted into solid food So simple a restriction as this will often work wonders in regulating the digestion and removing the thirst and epigastric gnawing If nourishment between meals is needed, it can be in form of somatose, nutrose and the like, that are not open to the objections urged against solid articles Nutrient enemata can also be administered during this interval In my experience, it is beneficial for the invalid to drink a cupful of hot water about an hour before the next meal, as it seems to aid in the expulsion of the chyme Skillful massage of the stomach from two to four hours after meals is likewise highly serviceable to the same end, besides having been shown by Boardman Reed to augment the amount of hydrochloric acid

The next step is the restriction of the amount of
ingested, particularly with meals In severe
ents should not be allowed to drink more
s of fluid, while even in mild ones ten
the maximum limit This does
tion to whatever other bever-
but all fluids combined
undue distention of
ent or actually
gested in the
to the smallest
s of the system
a restriction will
Milk should be regarded as liquid, for although its casein is coagulated, it must be remembered that 87 per cent of the milk is water Patients should likewise be restricted in the amount of solid food, a good and usually sufficient rule being that they leave the table feeling that they can eat more A little, well digested, is worth far more than a good deal, poorly digested This not only lessens the likelihood of distending the atonic organs, which it has been shown, furthers decomposition, but it tends to prevent the still greater cardiac embarrassment occasioned by post prandial pressure Such restriction must not be carried to the degree of starving the patient, and yet, if the quality of the nourishment be judiciously selected, it will often surprise one to find how small a bulk will suffice, nay, how it will minister to the patient's comfort

In considering the various beverages and viands that should constitute the menu for this class of invalids, I think it best to deal with the subject in a general way rather than to attempt to set out the composition of individual meals Tea and coffee should be weak, the amount of sugar and cream they contain being determined by the degree of digestive disturbance Cocoa or broma is preferable to chocolate because less rich, and when made with milk is nutritious If wines or liquor are thought advisable, they should be freely diluted with water Buttermilk, or malted milk often makes a valuable addition to a meal, and generally agrees well Effervescing drinks are objectionable on account of the distention they occasion, for this and other reasons I regard malt beverages as injurious Nevertheless, they may sometimes be allowed when particularly ordered and their bitter taste stimulates a flagging appetite Iced drinks should not be permitted, neither should fluids be very hot, as a medium temperature is undoubtedly better for a weak stomach The question of soups and broths must be governed by the state of the kidneys and the habits of the patient When nephritis exists, stock soups and meat extracts are to be rigorously interdicted It should never be forgotten that beef tea and the like are stimulants and possess no real food-value Cream soups, or purées as they are called, are not open to the same objection, and are highly nutritious All these are fluids, however, and when taken in connection with solid articles of diet should be limited in amount, lest they blunt the appetite for what is to follow

There are two considerations why the carbohydrates must be allowed but sparingly One is their tendency to undergo fermentation and give rise to flatulent distention of the bowels, and the other, their ready oxidizability, by virtue of which latter quality they appropriate the oxygen required for the utilization of the nitrogenous elements of the dietary Proteids are indispensable to the maintenance of the heart muscle, and therefore must always constitute a relatively large proportion of the food of cardiac patients Yet circulatory derangement reduces metabolic activity of the cells, the physiologic leucocytosis becomes excessive, and uric acid and other members of the xanthin group resulting from the splitting up of the nuclein are apt to occasion annoying symptoms which we term "lithemia" Inasmuch as starches and sugars can not be withheld entirely they must be given in as unobjectionable a form as possible Bread is best taken as toast or zwieback, light crackers, the so-called "shredded biscuits," etc Entire wheat flour is far preferable to patent flour, since the latter contains little but starch, and if toast and the like grow monotonous, baking powder muffins or rolls made very light and thoroughly baked may be substituted Potatoes, both white and sweet, rice, cereals, and the multifarious combinations of flour, butter and sugar whether with or without eggs and milk, known as cake, griddlecakes, etc , are inadmissible Sweetmeats, including candy and preserved and canned fruits, are likewise to be put under the ban When fruits are desired or indicated, they are best in their natural state but even then, must be fully ripe and fresh Apples are particularly good, because of their relatively large percentage of nucleo-albumin, baked they are often better tolerated than uncooked

Most of the green vegetables are valuable additions to the dietary, either because rich in proteids and other nutritive principles or on account of their serving as relishes and containing various salts essential to the organism Peas, lentils, string beans and spinach are said to be relatively rich in iron-forming principles Tomatoes, cabbage, cauliflower turnips and kindred varieties are apt to disagree, but if well borne may be permitted Asparagus, when not contraindicated by renal disease, celery, mushrooms, lettuce, greens of various kinds and young carrots are allowable, while onions, cucumbers, tender radishes and olives may be left to individual desire or idiosyncrasy Beets are rich in sugar, but otherwise are not generally objectionable The chief desideratum as regards all such vegetables is their freedom from liability to occasion flatulent distention, as do articles rich in starch and sugar

Of foods rich in nitrogen, beef and pork head the list, but perhaps are not so easily digested as veal, lamb and mutton, which are excellent when not too fat All meats should be roasted, broiled or stewed, not fried, but however prepared, they should be as free from gravy as possible and ought to be sufficiently well done to have destroyed the germs of decomposition, through whose action during the time of hanging the meat becomes tender Fowl and game birds form a capital adjunct to the heavier meats, as also do fish and most kinds of shellfish, particularly oysters, properly cooked Some of the salted meats and fish, when not too rich, provide appetizing and nutritious dishes Canned salmon, sausages and the like are too rich in fat, and are apt to cause eructations, whereas fresh tripe is said to be easy of digestion Cheese is to be forbidden excepting cottage cheese and some light cream cheese, as neuchatel Eggs are admissible, and when properly cooked are very digestible

In conclusion, a few words should be said concerning the dietary of two classes of cases one, in which the cardiac affection is complicated with nephritis, the other, in which it is secondary to arteriosclerosis, with or without angina pectoris In the former highly nitrogenous articles are clearly inadmissible, yet carbohydrates promote digestive disturbances Therefore, a compromise must be made, or milk must constitute the major part of the dietary When arteriosclerosis is the main difficulty, we are confronted by another problem We must nourish the overburdened heart, yet must avoid administering foods rich in lime salts otherwise the sclerosis will be increased Eggs, cereals and articles rich in phosphates are to be denied, or only permitted sparingly Moreover greater than ordinary care to avoid indigestion is imperative, since the products of defective digestion and faulty metabolism will set up vasomotor spasm The successful management of cardiac disease often consists in the removal of whatever may serve as a hindrance to the performance of the organ So simple a matter, therefore, as heightened blood pressure may make powerfully against the restoration of an unsound heart

Finally, it may be one thing to lay down a theoretic dietary for patients with heart disease but it is quite another thing to carry it out in practice Not only is our knowledge deficient of the physiologic chemistry of pathologic conditions, but we are hampered, even checkmated, by the notions, whims and prejudices of both patients and their friends

103 State St,

DISCUSSION

Dr Babcock—For the purpose of calling forth discussion I should like to direct attention to one or two points The first is, What would be the value and desirability of nuts in the dietary of heart patients? Through an oversight, not discovered until after the completion of my paper I omitted to include nuts These are generally considered difficult of digestion , but I am convinced that this depends much upon individual idiosyncrasy Nuts are rich in proteids that might well replace animal foods when these latter disagree, and are poor in carbohydrates except fats Consequently, those kinds that contain the smallest percentage of fat ought to prove suitable for persons with heart disease, if not eaten in excess The second point is the cause and treatment of the anemia so common in this class of patients Is the hypothesis tenable that the liver is unable to utilize the nucleo albumin of the food? Are the usual therapeutic preparations of iron, whether organic or inorganic, likely to prove of benefit? I am free to confess that I have become very skeptical as to the ability of the organism to assimilate iron except as obtained through the food , indeed, I rarely, if ever, prescribe it to my heart patients on this account

Although as stated I do not administer iron to my cardiac patients with any expectation of its being assimilated as such, yet *I feel bound to admit* this contradiction, that I sometimes order it for its effect upon the gastro intestinal tract in the way of stimulating appetite and digestion and thereby improving nutrition and indirectly overcoming the anemia

As regards Dr Whittiker's cases treated with iron, it might well be urged that the improvement was due to the rest and improved nutrition It is conceivable that under such circumstances the heart muscle might regain sufficient force to carry on the circulation in a more satisfactory manner, when the dropsy might at length disappear and the patient even lose all appearance of anemia so that to my mind it does not furnish conclusive evidence of the improvement in these cases having been wholly due to the iron The point advanced by the chairman, of the anemia being due largely to defective oxygenation of the blood is a good one, is worthy of careful consideration, and may furnish a valuable hint in the treatment of the anemia

---

SUGGESTIONS ON THE DIETETIC TREATMENT OF GOUT

Presented to the Section on Physiology and Dietetics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY DANIEL R BROWER, A M , M D LL D

Professor of Mental Disease Materia Medica and Therapeutics Rush Medical College University of Chicago Professor of Diseases of Nervous System Woman's Medical School Northwestern University and in Post Graduate Medical School
CHICAGO

The great Fothergill and Garrod taught us that uric acid was the causative factor in gout that it was formed by the metabolism of nitrogenous waste that it represents a lower degree of oxidation than urea, that uric acid and its salts, being insoluble, are much less easily eliminated and hence they accumulate in the system that it is in the liver the splitting up of peptones into glycogen and waste azotized substance takes place, and its insufficiency causes the diminished oxidation that produces uric acid instead of urea Haig, in his masterly treatise on uric acid accepts this theory *This tracing of gout to an exce-*

of nitrogenous ingesta results in the exclusion of this important group of alimentary principles from this class of patients

This origin of uric acid, as the exclusive one, can not be maintained today, for we know that much, if not all, of this product comes from the oxidation of the nuclein of the blood corpuscles, and that uric acid is not the sole etiologic factor, but that the uric acid group of leukomains is of great importance The defects of metabolism which produce the phenomena of gout are neurotic in origin and gout is a neurosis Not only do we find excessive formation of the uric acid group, but a deficient alkalinity of the blood, and this means diminished solvent power and the precipitation of the compounds in the tissues With the annihilation of the old theory of the origin of uric acid and the etiology of gout, a review of the principles of diet in the disease has become necessary

It is true of gout, as of every other disease, that the diet must be made to suit the patient The old adage, "one man's meat is another's poison," is emphatically true here, so that while the diet of Haig may suit some cases, yet the very opposite, or a diet exclusively of animal food, after the "Salisbury" method, for example, is the best for other cases

The object of this paper is to insist upon a much more liberal allowance of the albuminoids than the dietaries of Haig, Garrod or Fothergill and their followers permit The functional activity of the body is largely dependent upon the albuminates, which are necessary to the formation and repair of the tissues and fluids of the body, they regulate the absorption and utilization of oxygen, and contribute to the production of muscular and nervous force and heat, and hence must be of great importance to these patients Lower the nervous tone and you but add to the danger The source from which the body can most easily obtain the albuminoid matter is animal food The amount of this food that should be permitted will usually be less than that used by the normal individual, and yet the extent to which such a reduction can be carried with impunity will depend upon the digestive peculiarities of the individual The man of sedentary habits requires less than the man leading an active life An exclusively vegetable diet should be advised only in the exceptional cases

The consumption of food of all kinds should be minimized Ben Franklin's rule of always rising from the table with an appetite is the rule for the gouty They should consume only enough to nourish the body and maintain its functional activity Unfortunately for many of them, they pass into middle life with the vigorous appetite of early life and, unrestrained, lay the foundation for obesity, always a calamity for these unfortunates Sugar, starchy and fatty foods, should be taken in moderation, because they interfere with complete metabolism of the albuminates This is especially true of sugar, it is as detrimental to the gouty as it is to the diabetic, and for it saccharin can well be substituted, because it not only satisfies the craving for sweets, but also acts as an antiseptic and diuretic, thereby diminishing the danger of auto-intoxication and promoting elimination The starchy foods, readily converted in the body into sugar, are as objectionable as sugar, and giving rise as they so frequently do, to defective intestinal indigestion and resulting auto-intoxication, will lay the foundation for acute seizures Fatty foods are of benefit to some because they satisfy the appetite, and thereby diminish the total quantity of food eaten, but, as is well known, we must remember that under the influence of fat, tissue waste is diminished and less oxygen is taken into the system This capacity to diminish albuminous metabolism may be very well for the lean, who can digest them, but bad for those who are inclined to corpulency Eggs should be taken in moderation, there are some in whom they will produce, in small quantities, toxic symptoms The large amount of fat they contain places them in the above category Cheese is to be avoided, as the most concentrated of the albuminates, and because of the lactic and fatty acids it contains Tomatoes, asparagus, rhubarb and strawberries, tending to produce an excess of oxalates, are to be avoided In short, the great principles to be considered are 1, abstemiousness in all things, 2, non-restriction of the animal albuminates which are so essential to the nutrition of the body and so comparatively easy of digestion, 3, withdrawing from the dietary the saccharine, starchy and fatty foods that check metabolism and diminish oxidation

Among beverages we must always remember milk first, it is a very desirable food The water used should be as free as possible from mineral matter, distilled water being the ideal There is advantage in taking it hot a half-hour before meals and at bedtime

The question of the use of alcoholic beverages is important and often difficult to decide There are many gouty persons who should become total abstainers, and there are others who will be greatly benefited by the moderate use of alcohols Beer, porter, stout, the sweet and sherry wines, such as champagnes, ports, sherries, Madeira and Burgundy, should be avoided Moselle, light hock, the light Hungarian wines and claret, especially diluted with an alkaline table water, are permissible For many whisky, brandy, Scotch whisky, or a gin, well diluted with an alkaline water, is the best form of alcohol

---

PHYSIOLOGIC PRINCIPLES UNDERLYING INFANT DIETARY

Presented to the Section on Physiology and Dietetics, at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo June 7-10 1898

BY R O BEARD, M D
PROFESSOR OF PHYSIOLOGY, DEPARTMENT OF MEDICINE, UNIVERSITY OF MINNESOTA
MINNEAPOLIS MINN

No subject in general medicine has been more prolific of literature in the past and less fruitful of practical results in the present than the question of infant food and infant-feeding Infancy is still a prey to gastro-intestinal disease Thirty-five per cent of the children born, die within the first three years of life of disorders of the alimentary tract or their sequelæ No satisfactory explanation of this mortality has ever been given, saving that of prevalent dietetic error No theory accounts for this condition other than this that out of the great mass of varied experience, the medical profession has evolved no scientific system of infant dietary, has been guided by no sound physiologic principles in the selection, preparation and feeding of infant food

After an endeavor, maintained for fifteen years, to meet this default and to remove this reproach from the practice of medicine, the writer ventures to present to this body certain foundational facts to which his daily practice has been adjusted and which an almost unbroken success in infant-feeding and a nearly complete abolition of infant mortality from gastro intestinal disease have sustained The hope that one has succeeded in the solution of a problem, which others have so repeatedly failed to solve, would be rash indeed if it were not supported by the test of persistent trial These facts will be presented in a brief outline form which will afford convenient openings for criticism

The nursing mother and the individual nursing infant are normal elements in a physiologic equation Under health conditions these elements are closely correlated This correlation begins, not with parturition, but with impregnation The metabolic changes leading up to lactation are initiated with the beginning of pregnancy The nutritive events which occur in utero are associated with, are directive of, the metabolic events going on in the mammary gland Evidence of this is seen in the fact that the premature termination of gestation determines an immature climax of functional activity in the breast In the rabbit and in the cat, the writer has frequently noted the occurrence of structural changes in the gland and the rapid development of an abortive secretion of milk as the results of an induced abortion in the early stages of pregnancy Clinical observations upon the human confirm this physiologic analogy

It follows that errors or disorders of pregnancy are frequent causes of failure in the metabolism of the breast, are points of departure from which proceeds a future lack of correspondence between maternal supply and infantile demand In the normal mother, after parturition, the output of the gland, both in the matter of quantity and in the matter of quality, corresponds with and varies to meet the needs of the infant Human milk is not of stable composition, a fact which accounts for the uncertainties of analysis

It must be insisted that this physiologic equation is, in each case, a personal one In the same mother, with successive children, the largest variations in the quantity and in the quality of the milk-supply are to be observed and this under equally good conditions of maternal health The quantity of the output corresponds closely with the capacity of the infant's stomach, its quality with the nutritive needs of the child At successive stages in the entire lactation period, quantity and quality thus keep step, up to a physiologic limit, with the metabolic history of the infant

Following in the footsteps of Frolovski, the writer has studied and recorded series of cases with reference to this correspondence Difficult as it is to estimate the capacity of the stomach, postmortem, there is, nevertheless, a close correspondence between the results of measurements of the dead organ in infants, of certain ages, and the estimations, by graduated feeding, and by easily induced emesis immediately after feeding, of stomach capacities in the living child at similar periods of infancy An equally striking relationship has been observed between these capacities of the infant stomach, so determined, and the measured yield to the suction-pump of the active loaded mammary glands at similar periods Marked as are these variances in quantity, no less so are the changes in quality, in the proportions of proteids, fats and carbohydrates observed in the human milk at successive stages of lactation

The responsiveness of the mammary gland to intra-uterine stimuli before parturition and to the infantile demands after birth is not difficult to understand when the highly developed, typical quality of its metabolism, second only to that of the germinal epithelia is considered Its similarly sensitive response to influences disturbant of its metabolism is characteristic and accounts for the frequent failure of lactation Into the many causes of this metabolic failure it is unnecessary to go Suffice it to recognize the fact and to see in this disturbed physiologic equation the necessity for the study of a scientific substitution of the normal infant food The artificial feeding of infancy is a most delicate problem, into the solution of which enters the appreciation of those conditions of quantity and quality in the normal supply upon which emphasis has been put But that is not all It turns equally upon an understanding of the conditions of the physiologic demand, upon a better knowledge than has yet been attained of the digestive processes of infancy They are not those of adult life They contribute, not merely to the maintenance of the balance between waste and repair, they minister to a constructive metabolism which altogether overshadows destructive tissue-change Observation alike of the feeder and the food has brought out, quite clearly, some features of infantile digestion

In the carbohydrate field, nature fortunately provides a fully elaborated supply, for the amylolytic ferment of the saliva is inactive while that of the pancreatic juice is absent in early infancy Consequently, the non digestion of starch, the readier digestion of dextrins, the non-inversion and the easy fermentation of cane sugar, the non-fermentation and the ready absorption and inversion of lactose, are the characteristics of carbohydrate digestion

In the proteid field, the ready digestion of the lactalbumin and caseinogen of the human milk is to be noted This is secured by the joint action of the pepto-hydrochloric acid of the gastric juice and of the trypto carbonate of soda in the pancreatic juice

To Professor Chittenden of Yale University, physiology is indebted for the use of the first term, descriptive of the loose chemic combination which exists between the pepsin and the hydrochloric acid The writer has ventured to suggest the use of the latter term as equally suggestive of the necessary association existing between the trypsin and the sodium carbonate of the pancreatic juice

The statements of recent writers on infant hygiene that hydrochloric acid does not exist in the normal stomach of very early infancy, can be very simply disproved It does not exist in free form, and even in the normal gastric juice of adult life is this true It is existent, nevertheless, as Professor Chittenden has suggested, in association with pepsin In that relation it will not respond to the usual color tests for free hydrochloric acid When, however, by the application of heat to 65 degrees C the pepsin is destroyed, the hydrochloric acid is dissociated from it and can then be detected by these usual tests In a series of observations upon the gastric juice taken from seven healthy infants during the first week of life, the writer has clearly determined the effective presence of hydrochloric acid by this method The agents of proteid digestion exist, then, alike in the stomach and in the small bowel of the infant, even before birth

The digestion of the proteids of cow's milk by the human infant is a very different matter Lactalbumin and caseinogen in human milk are one thing in bovine milk they are another Proteids of very similar character, which go under the same names, but are existent in the several tissues and body-fluids, often demand differentiation Creité, Lehman, Weiss and others have shown that the serum-albumin of one animal is foreign to and toxic in the blood of another and that its introduction is commonly followed by albuminuria In view of these facts, it is easy to understand that the proteids of the milk of one species may undergo doubtful digestion in the infantile food-tract of another

In the field of fatty foods, nature again provides an elaborated supply The fat splitting process is difficult in infancy and, consequently, the finer the emulsion of the fat in the milk, the more readily is its absorption effected And in this quality milk varies Much of the details of infant digestion remain to be determined Some suggestions, offered by experiment upon the young of the lower animals, await confirmation Nevertheless, these physiologic problems of infant digestion and maternal supply have been sufficiently worked out to afford the basis for a scientific substitution of human milk by artificial food in that great multitude of cases which demand a foreign supply Into its consideration enter three primary factors

1 Substitution must be effective in respect to *quality* Food analysis has reached a point of accuracy which justifies the demand that food selection and food preparation for infant uses shall be essentially scientific The market, full of manufactured infant foods, exploited in the secular and medical press as perfect substitutes for human milk and employed, upon hearsay, one after another, in the feeding of the mal nourished babe, without so much as a personal inquiry upon the part of the prescriber into their nutritive qualities or mechanical conditions, is a scandal to the medical profession The adulteration of infant foods with these products and the crude methods of modifying animal milk, without reference to the age and digestive powers of the infant-consumer, are curious persistencies of practice quite out of date with the general scientific progress of medicine Substitution in respect to quality may be effected (a) by the modification of animal milk, (b) by its pre digestion, or (c) by the use of manufactured foods A comparison of these methods in detail is unnecessary It is enough to express the belief that with the attainment of the scientific imitation of the human supply, for all periods of early infancy, by means of modified and pure animal milk, through such agencies as the Walker-Gordon laboratories, which sooner or later our towns and cities must support, will come the survival of our need either for manufactured foods or for the agents of pre digestion Only by laboratory methods can scientific modification and absolute purity be attained

2 Substitution must be effective in respect to *quantity* A working standard of quantities may be secured by the study of average infantile stomach capacities, at successive ages, compared with the average breast yield at such periods The following table is illustrative, is accurate enough for guidance, and indicates that the average infant receives a large excess of artificial food

PERIOD	QUANTITY
One week	70 c c
One month	95 "
Two months	140 "
Three months	170 "
Five months	215 "
Seven months	265 "
	300 "

While these average quantities are far less than most bottle-fed babies ingest, the writer can not endorse the contention of Dr Rotch and others that over-feeding, in the matter of quantity, is a common cause of dilatation of the stomach It may be doubted, indeed, if gastric dilatation is ever due to over distension It is rather the result of a loss of that muscular tone, of that obscure quality of tonic contraction which is the incident of the rest-period in the functional history of the stomach This loss usually results from disordered chemic conditions within the viscus, due to the indigestion and retention of food It has been induced, alike in men and in animals, by the repeated introduction of chemic irritants

Fortunately, the infant stomach, both by its powers of rapid absorption and of ready emesis, resists over-distension Moreover, distension is the natural precursor of peristalsis It must be carried to a great excess before contraction fails of response Excess of food quantity is a sufficiently certain cause of indigestion and of consequent malnutrition, without laying at its door problematic ills

3 A third and most important factor in scientific food substitution is the element of *time* Excessive feeding is the head and front of our offending against infancy, but excess is most customary in the practice of the people and of the profession at large, is most habitual in individual cases and is most destructive of infant life in the form of over-frequency of feeding In its prevalence and in its dangers this practice is so pernicious that, beside it, excess in the mere matter of food quantity is of insignificant proportions The period as well as the process of digestion is involved in this consideration Error has grown out of the misconception that the term of digestion is to be measured by the length of time during which food remains in the stomach In the infant it is peculiarly true that the gastric changes are but preliminary to intestinal digestion The entire event, including the process of absorption, should be estimated and the physiologic rule of alternating periods of activity and repose in the digestive tract should be respected

Human milk probably undergoes complete digestion in three hours The best imitations of it require a longer time The absorption of the products of digestion is not completed within this period

In infancy, meal too often follows meal with so great rapidity that functional rest is altogether abolished Indigestion ensues Malnutrition or hyper-nutrition, which is practically the same thing, follows A soil is cultivated in the food passages which affords good seeding ground for pathogenic bacteria The gastro intestinal diseases of infancy, with their remarkable mortality, result

In the past fifteen years clinical observation and physiologic study of this question have combined to mold, for the writer, a practice in this regard which has afforded overwhelming evidence that not even secondary in importance to the choice of infant food and of far greater consequence than the regulation of quantity, is the establishment of definite and, judged by common custom, of extremely infrequent hours of infant feeding In nearly four hundred infants, fed upon human milk or upon carefully selected and modified artificial food, allotted to them in quantities corresponding to the physiologic standard given, and fed to them from *three to five times in the twenty-four hours*, according to the character of the food ingested, he has witnessed an attainment of weight and height, at successive ages, far in excess of the average, he has seen the disappearance of serious gastro-intestinal disease and has recorded a mortality of but 75 per cent

To the application of physiologic principles of infant dietary, rather than to the therapeutics of infancy, the profession must look for a diminution of infant disease and a conquest over infant death

DISCUSSION

Dr C B Van Zant, Denver, Colo —If the Doctor will permit I would like to add a fourth factor to the three he has so strongly presented—the matter of locality With the quantity and quality of food and the intervals of feeding exactly the same, it is a notable fact that in different places the results of infantile feeding will be very different It is one thing to raise a child artificially in the country and another in the city Likewise differences will be apparent in different cities, much depending on external conditions For a number of years I practiced in a crowded Eastern city, later on, in Denver , I am quite confident, as a result of observation, that infantile feeding is a much simpler problem in Colorado than in certain other sections and that gastro intestinal disorders in infants, bottle fed, are much less prevalent and much less fatal here than in the East I am not able to explain this satisfactorily, but venture the following points as probably important (a) an unusually good and pure milk supply in Colorado , (b) the common, out-door life and (c) the greater freedom from micro organisms productive of fermentative changes in foods

---

ABSORPTION VS DIGESTION OF MILK

Presented to the Section on Physiology and Dietetics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7–10 1898

BY L DUNCAN BULKLEY, A M , M D
Physician to the New York Skin and Cancer Hospital, Consulting Physician to the New York Hospital, etc
NEW YORK CITY

No words or argument are necessary to show the advantage of milk as a nutriment Millions of human beings, from the cradle to the grave, have proved its life-giving powers, and untold millions will continue to use it, wholly ignorant of any physiologic facts concerning its mode of influencing nutrition, and guided only by instinct, which in animals is unerring, but which in man is often perverted by the elements of civilization

Milk is food Alone and unassisted it is capable not only of sustaining life for an indefinite period, but it furnishes all the elements for the complete construction of the human frame, on it alone the infant learns to talk and walk, and develops all the tissues of the system Adults have lived on it alone for weeks or months, and by it convalescents from grave sicknesses have recovered vitality and strength Milk is a complex and delicate substance While composed very largely of water—87 per cent in an average good specimen—the remaining 13 per cent contains a variety of substances wonderfully united, chemically and mechanically, in a manner suitable for absorption and appropriation by the economy It is not the purpose of this paper to discuss the value of milk as a nutriment, nor to study its composition or chemistry, but only to present fully a practical theory in regard to the physiology of its *absorption*, under proper circumstances, as opposed to the commonly received notion that it must undergo *digestion* before it is assimilated in the system, and to this we will immediately proceed

Some years ago a number of observers reported the intravenous injection of milk It is not necessary here to recount the experiments and experiences, suffice to say that reliable men have succeeded in introducing pure milk directly into the veins of patients, where it has mingled with the blood going first to the lungs, without any thought of digestion, such as takes place in the alimentary canal These patients lived and throve under the process

This intravenous injection and assimilation of milk-food first called the writer's attention to the fact that milk could be thus appropriated by the system without digestion, and led to the study and development of the theory to be propounded, and which he has put in practical application for ten or fifteen years, in hundreds and perhaps thousands of cases, and which daily experience confirms in a most substantial manner I may say that the theory has been partially presented from time to time before medical societies and to friends, and also casually mentioned in writing, and while objections have been raised, these have generally been satisfactorily met and the plan proposed has been adopted successfully by very many, who I am sure, would gladly bear witness if they were present I may mention that the late Drs Marion Sims and Frank Hamilton accepted the theory and acted on it during the later years of their lives, and that the late physiologist, Dr John C Dalton, entirely acquiesced in its correctness, and Dr Wesley Mills, professor of physiology at McGill University, Montreal, lately acknowledged the truth of the proposition,

Recognizing that milk could enter the system without passing through stomach digestion, I began to consider under what physiologic conditions this could be effected other than by intravenous injection An analogy to the absorption of milk was found in the chyle and its discharge into the venous blood in the subclavian vein and vena cava on its way to the pulmonary circulation When examined microscopically the chyle is hardly to be distinguished from rich milk, and it was argued that the milk globules could pass unchanged by the same channels through which the elements of the chyle were absorbed from the stomach and intestines, the problem was to present the milk in such a manner to the absorbents that it could be taken up immediately without having it undergo the process of coagulation, caseation and subsequent gastric digestion Remembering that the blood was alkaline, the chyle alkaline, and normal milk also alkaline, it was suggested that if the milk could be presented to the absorbents in an an alkaline state, and at a proper temperature, absorption might take place immediately without the intermediate process of digestion

The activity of the stomach is such, as shown by the well known experiments of Alexis St Martin and others, that with the least excitation gastric juice is immediately poured out, which would of course, at once coagulate some portion of the milk, and from this it would continue until all the milk was attacked, coagulated and digested The problem was, therefore, to introduce the milk in such a manner that there should be no stomach activity and no secretion of gastric juice Plainly then, it must be given quite apart from all solid food, or any substance or condition which could excite gastric juice Even the least amount of acidity from a preceding meal would coagulate some of the milk and so start on the whole process of caseation and digestion

Physiologically it is well recognized that the stomach in health does not ordinarily secrete gastric juice except under the stimulus of food At a varying period after the taking of food, the time being dependent upon the amount and quality of the food taken and the powers of digestion, the stomach has finished its task absorption of certain elements has taken place, some portions have been passed on to the intestine, for further action, and the stomach is found to be empty, awaiting further cause for activity At this period the stomach loses its turgid red color, becomes paler and more or less flaccid, and its surface is bathed with more or less of an alkaline secretion, this constituting the alkaline tide As stated, this occurs at varying periods of time after the ingestion of food, it may occur in an hour or so after a very small amount of very digestible food, or not for four, five, or even many more hours after a very heavy or unusually indigestible meal, or with very weak or sluggish digestion This should constantly be borne in mind in connection with the plan of treatment to be proposed, otherwise failure is sure to result It is only when this alkaline tide is perfectly secured and utilized that the real beneficial results of this plan can be secured

The idea, then, is to introduce the milk, pure and alone, and at the body temperature, just after this alkaline tide has set in, or during its continuance, and to avoid food or any substance which could call forth gastric secretion until after its absorption has been fully accomplished It is believed, then, that the warm alkaline milk is absorbed directly by the lacteals and carried at once by the thoracic duct into the subclavian vein, and so reaches the blood and is acted upon in the lungs before it is submitted to liver action

In contrast to this stands the physiologic process which takes place when the milk is taken with other food and submitted to ordinary gastric and intestinal digestion Here after being acted upon by the gastric and intestinal juices its casein passes through the state of proteose into peptone and thence through the portal circulation into the liver, to be transformed into urea

It is difficult to present absolute physiologic proof of the mode of *absorption* of milk here claimed, as opposed to its *digestion*, under the circumstances detailed, but strongly corroborative evidence is furnished in some experiments made by Dr Andrew H Smith of New York, who has kindly consented to my mentioning them Some years ago, while experimenting on kittens to determine certain facts in regard to blood pressure, he accidentally wounded the jugular vein To his surprise, the blood from it appeared of a lighter color than expected, and in marked contrast to that obtained from the saphenous vein Taking another kitten from the mother's breasts he opened the jugular vein and found the same condition, and, I believe, he did the same with a third nursing kitten He says that he could never explain the phenomenon until I propounded to him the theory of milk absorption, in full, which he at once accepted and regarded as an explanation of the condition found in the kittens, the milk being absorbed at once by the lacteals was poured by the thoracic duct into the subclavian vein and found ready exit on the opening of the jugular I remarked to him that he had supplied the one missing link in support of my theory It would be interesting to test the condition of the stomach, after taking milk on this plan by means of the stomach-tube, but possibly this procedure might of itself excite gastric activity, which would confuse matters and vitiate the value of the experiment

It would lead us too far from the practical object of this paper to attempt to enter at all fully into the physiology of digestion and assimilation or to elaborate any of the physiologic chemistry of the subject Suffice to say that this difference in the course which milk can take under varying circumstances becomes clearly evident, clinically and practically, with close and sufficient observation Proof could be furnished by hundreds of cases in which the present writer has carefully directed this plan of taking milk and has observed and recorded the facts, Constantly those who have been quite unable to use milk in the ordinary way, have followed the plan proposed, with the most satisfactory results In the writer's own person, milk taken in the ordinary manner and with food invariably disagrees, causing sick headache and functional liver disturbances, whereas, following the plan proposed, he has taken a quart of milk daily for ten and more years with the greatest benefit

A few words may be added in regard to the practical features of the subject It has constantly happened to the writer that patients have returned, after full directions had been given, as was believed, with the statement that the plan was not successful, and that it was impossible for them to take milk, as had always been the case In some instances undoubtedly there may be such an aversion to milk, or such an idiosyncrasy in the patient, that even this plan does not succeed But almost invariably it has been found that the want of success was due to some failure in carrying out the plan proposed, for it must be clearly understood and most strongly and forcibly declared that unless the theory is perfectly acted upon and the plan absolutely carried out as to all its details, the results claimed can not be expected But after an experience with it of ten or fifteen years, and with the most varied and often difficult class of patients, and with many temporary failures, I again assert that when perfectly carried out results can be obtained which are of the greatest and most lasting benefit, there is hardly a single fact in medicine or feature in therapeutics of which I am more confident It is sometimes difficult, however, to succeed at first in getting patients to carry out the plan exactly, for it must be remembered that the smallest possible amount of gastric juice or acidity will cause some portion of the milk to be coagulated, and when this digestive process is once begun, even in the slightest degree, it must go on until all the milk has been attacked and digested

In many instances I have found that patients had taken with the milk a small amount of food, as a cracker, following the advice of a former physician or that of friends Again, some will put an egg in the milk, or add whisky or brandy, and in many ways I have had the correct operation of the plan interfered with It repeatedly happens that the milk is taken too soon after a meal, or perhaps even when a long enough interval of time has elapsed, it has happened that owing to a sluggish digestion, it has come upon the products of a former meal, and not during the alkaline tide Thus, patients will often take milk at half past ten or eleven in the morning or at three or four in the afternoon, because at that time they had felt a faint and "gone feeling" and mistook the uncomfortable sensation of delayed digestion for hunger It will, therefore, often be very difficult to be sure that the stomach has reached the alkaline condition, when only the milk can be taken with advantage My rule is not to have it taken longer than an hour before the coming meal, but under proper conditions it may often be taken even up to thirty minutes before eating, although this is rare

Sometimes, if the digestion is sluggish, it is necessary to administer pepsin or other digestives very freely and repeatedly, to secure an empty stomach early enough, and at times when there is any doubt, I have taken one or more doses of bicarbonate of soda half an hour or so before taking the milk It is also often advantageous to put a little bicarbonate of soda into the milk, if there is any question as to its perfect alkalinity or as to the alkaline state of the stomach But these measures will not be successful if there is food or any remains of an acid digestion

The temperature of the milk is also an element of importance If taken iced cold the perfect action of the plan is frequently interfered with, the effort to warm the milk in the stomach, which is necessary before absorption, will often seem to give occasion for an attempt at stomach digestion, and a sensation of pressure and discomfort will follow, which is far different from the agreeable sensations accompanying its proper use My directions, therefore, are that the milk shall be made of the body temperature, by heating it carefully in hot water, if possible, if boiled so as to produce the slightest scum on the surface, and this is taken, it acts prejudicially by exciting gastric action, and the aim of the process is defeated It is often desirable to warm the milk by the addition of hot water, as absorption is even more readily affected thus than when the milk is too rich and thick

I have also often seen harm done when cream had risen, and had been stirred into the milk, forming flakes, these small solid particles being incapable of immediate absorption may result in causing the secretion of gastric or pancreatic fluid in the process of digestion

Many of these points—and more could be mentioned—may seem trivial and unnecessary, but long experience in following the plan proposed under the most diverse circumstances has convinced me that in this, as in so many other medical matters, attention to details is of the utmost importance, and, as reiterated here more than once, it is essential that the plan be perfectly followed in every detail, in order to obtain perfect success

When prescribing milk according to the plan proposed, pure, warm and alone, one hour before meals, patients often object that it would destroy what appetite they have But it is an interesting fact, based on physiologic reasons, that when thus taken successfully it not only does not impair the appetite, but greatly increases it If a particle of food, as a cracker, is taken with it, or if for some reason or fault it does not act exactly rightly, then the appetite is impaired, naturally so, because there is a process of digestion which takes a longer time than the hour, or rather half hour required for its absorption, and the stomach can not be ready for fresh food again so soon

The physiologic basis for the improvement of the appetite is simple The process of secretion from the glands of the stomach and elsewhere, depends largely upon osmosis and blood pressure By the quick absorption of milk the pressure of the blood in the capillaries is increased, and a richer blood is offered for the secretion of the gastric juice This improvement in the appetite under this plan of treatment has been observed by myself and others in dozens of instances

A common time of administering milk with me, especially in poorly nourished females, is in the morning, one hour before breakfast, the directions being that the patient shall lie still for a quarter of an hour thereafter, it is often found then that instead of rising fatigued, with no appetite for breakfast, the patient gains in strength and enters on the day with a vigor quite unknown before I also very commonly have weak females lie down in a darkened room for a half-hour nap after taking the milk at 12 and 5 o clock I could give many, many instances where the transformation of the patient by this simple procedure has been really marvelous The soporific qualities of warm milk at bedtime or in the night are sometimes remarkable

I trust I may be pardoned for my seeming enthusiasm in regard to the plan proposed, for it is presented after mature thought and very extensive experience, dating back many years, and I only wish to make this theory and plan so clear and plain that many may be led to adopt it in daily practice, feeling sure that if properly understood and faithfully carried out their experience will be the same as mine and that of many other physicians who have accepted and worked upon it

4 East Thirty seventh Street

DISCUSSION

Dr **Robert H Babcock**, Chicago—I desire to add my testimonial to the efficacy of milk taken in accordance with Dr Bulkley's method Since having learned of this way of drinking milk two years ago, I have so prescribed it to many patients, and with but one exception, I think, they have experienced no difficulty in its assimilation On the contrary, it has been well borne, and, what was almost incredible to me at first, it has been found not to interfere with appetite for, and digestion of, the following meal I am at a loss to explain why milk taken in this manner should agree better and apparently be absorbed or assimilated differently from when drunk at meal time, but I am convinced that some difference does exist So firmly rooted are the teachings of physiology in my mind that I am not able to accept Dr Bulkley's explanation of its absorption directly, as unaltered milk It may be that being bland and warm the milk is allowed by the empty stomach to pass through into the duodenum, but how it can escape the action of the milk curdling ferment of the pancreatic secretion, I can not understand Of course, the cream, or fat of the milk can be taken up by the lacteals at once, since it is already in a state of fine emulsion, while the water and the salts in solution might be quickly and directly absorbed, but I confess I can not understand, as yet, what is done with the casein if it is not subjected to digestion in the small intestine However, my failure to understand the mechanism of its digestion, or absorption without digestion, offers no barrier to my acceptance of its clinical value when taken in the manner devised by the distinguished author of the paper

Dr **H W Scaife** Chicago—My objection to Dr Bulkley's theory is this He asks us to believe milk is absorbed by the lacteals as water would be by a sponge, and is conveyed to the veins unchanged His theory is entirely groundless, his idea of assimilation old fashioned The walls of the intestines do not act like inanimate membrane "The act of seizing food," says Binel, "belongs to living tissue It is not a chemic nor a physico chemic, but a physiologic phenomena' So it is entirely inadmissible, that by his method of administration or any other method, milk can pass through the living tissue without change His clinical facts are good, his theory to explain which is entirely false, and if he injects milk into the veins of any animal, he will not feed it, but kill it

Dr **C B Van Zant**, Denver—Dr Bulkley s paper, based as it is, upon such a large amount of clinical experience, the value of the method which Dr Bulkley advocates can not be gainsaid With his theoretic explanation, however, of the physiology of this process we must heartily disagree It is contrary to all the present teachings of physiology to suppose that milk can gain access to the blood current unchanged and without previous coagulation and digestion In the first place we can not believe that milk in any form, or temperature or in any manner of administration will fail to evoke an outpouring of gastric juice The experiments of Beaumont showed that it invariably follows the ingestion of fluids and even the gentlest titillation of the gastric mucous membrane led to its discharge If this be true, coagulation of the milk in the stomach is certain, no matter when or how the milk be given If however, we grant the possibility of the milk running the gauntlet of gastric juice coagulation and a partial digestion, what assurance have we that it would fail to excite the pancreatic secretion, by which it would inevitably be coagulated and digested? It seems to me totally untenable to suppose that the milk can enter the absorbents directly and without change While I gladly admit that the method of milk administration which Dr Bulkley advocates seems to have the weight of clinical experience back of it and to be valuable, the theory as to its action seems to me out of accord with the present accepted beliefs of the best physiologists

Dr BULKLEY, in closing, said he was glad of the criticisms which had been made, as he believed that only by frank and full discussion could truth be brought out He had purposely presented the paper before the Section on Physiology because he wanted the theory proposed to be scientifically considered and criticised, and he should endeavor to benefit by the remarks made, and should study the subject still further

But he would say that in spite of the objections that had been raised he should still adhere to theory as proposed until a better working hypothesis was obtained Because, however the ultimate course of the milk may be considered physiologically there was somehow a vast difference, greater than he could express by words, between the behaviour of milk when taken in the ordinary way carelessly, or with food, and when administered absolutely according to the principles and methods laid down This clinical difference, which he had observed for many years—from ten to twenty—and in hundreds of instances, must have some scientific reason back of it, and, for his part, he would prefer to accept the accumulated evidence of years as demonstrating some physiologic difference than accept the statements or arguments that had been brought forward to show that the theory was untenable Possibly the physiology was wrong—for this is a somewhat changing science—and we can not explain just how milk or indeed other aliments act under perfectly normal conditions, for it is to be remembered that experiments, on which physiology is based, always introduce an abnormal element themselves He should, therefore, adhere to his theory as an excellent working basis, because it furnished the means of aiding in carrying out intelligently the system or plan described, which with him and others had yielded such exceptionally beneficial results

---

WHAT IS THE FOOD VALUE OF ALCOHOL?

Presented to the Section on Physiology and Dietetics at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo June 7-10 1898

BY E STUVER, M Sc, M D, PH D
Member Colorado State Medical Society (Vice President 1894) Rocky Mountain Inter State Medical Association American Medical Association International Medical Congress, etc
RAWLINS WYO

Food is described by the Standard Dictionary as "That which is eaten or drunk, for nourishment, aliment, nutriment in the scientific sense, any substance that being taken into the body of animal or plant, serves through organic action to build up normal structure or supply the waste of tissue, nutriment, aliment as distinguished from condiment,' and Webster gives substantially the same definition

While these definitions give what I desire to designate as the positive side of the question, there is also a negative side which should be considered in arriving at a true estimate of the food value of any substance ingested by man or animals for the purpose of nutrition By this negative side I mean that the food substance, while containing the elements necessary for tissue-building or heat production, should not interfere with the normal organic processes of digestion, assimilation or excretion Nor should it interfere with the normal oxygen-carrying power of the red-blood corpuscles or impair the healthy activity of the enveloping membrane which surrounds all the tissues and cells of the body, and on whose unimpaired dialyzing power the *endosmosis* of nutrient material and the *exosmosis* of broken-down, retrograde products or toxins depend As you are all well aware, recent investigations have demonstrated the immense importance of auto intoxication and the very serious consequences that may result from retained toxins or waste materials On this subject Dr Thomas Oliver speaks as follows "Bouchard[1] clearly indicates to us that man is constantly standing, as it were, on the brink of a precipice, he is continually on the threshold of disease Every moment of his life he runs the risk of being overpowered by poisons generated within his system Self-poisoning is only prevented by the activity of the excretory organs, chiefly the kidneys, and by the watchfulness of the liver, which acts the part of a sentinel to the materials brought to it by the portal vein from the alimentary canal

In view of these facts free elimination assumes a very important place and must receive careful consideration in arriving at conclusions concerning the relative value of nutrient materials We should inquire, not only as to the tissue-forming or heat producing power of any particular food substance, but also ascertain how it affects digestion, assimilation and excretion, and then we will be in a position to arrive at a true estimate of its value to the system On this basis, let us now try to ascertain the food value of alcohol I shall confine what I have to say to ethylic alcohol (C_2H_5HO), the kind in common use

Ever since the earliest historic times until within recent years, it has been believed that alcohol is a true tonic, that it stimulates mental activity, increases muscular force and the powers of endurance, that it enables man better to endure the rigors of extreme cold and the fervor of intense heat than he could without it, that it protects him against the invasions of disease and helps him to counteract their effects and throw them off when contracted—in short, that it elevates his thoughts, increases his powers, blunts his pains and sorrows and enhances his joys Even twelve or fifteen years ago it was believed by many eminent authorities that pure alcohol possesses a positive food value T Cranstoun Charles[2] says "As to the rôle played by alcohol in the economy there is still some difference of opinion but the weight of evidence is in favor of the theory that it acts more or less as an aliment When ingested in excess much of it traverses the system unburnt and is then found in the urine, sweat and expired air (Lallemand, Perrin, etc), but when taken in a moderate dose the amount eliminated by the urine forms but a small proportion of that absorbed (Dupré), some even maintain that the quantity thus excreted does not amount to more than 0 7 per cent (Thresh) The chief portion of the alcohol in the latter case, therefore, undergoes consumption in the body (Anstie, Thudicum, Schulinus, Baudet, etc) We shall see elsewhere that a little alcohol is generated in the organism itself (Bechamp) Alcohol does not appear to increase the production of heat as a chemic agent (E Smith), rather, in large amount, lowering temperature by checking some of the oxidation occurring in the body, particularly when abnormal, as in fevers It also, when given in a state of health, tends to diminish muscular power, but indirectly the effect may be to increase it by improving the tone of the system through the appetite and digestion of food While the carbonic acid exhaled is slightly diminished when wines and beer are taken in moderate quantity, the secretion of gastric and pancreatic juices is favored, and there is a gentle excitation of the nerve centers, and at the same time an undoubted addition made in the form of salts, fats, glycerin and albuminoids—beer being not only stimulating and tonic, but also nutritious Indeed, of the alcoholic drinks beers occupy the first place as foods, then come cider and perry, then wines, and as they sustain and increase vital action, they must be regarded as true foods (E Smith) According to Voit, also, alcohol must be regarded as a food, as under its influence fewer substances are decomposed in the body "

---

[1] Bouchard Preface to 'Auto Intoxication in Disease," page 8

[2] Elements of Physiologic and Pathologic Chemistry, 1884

"Considered dietetically," says Pereira,[3] "beer possesses a threefold property it quenches thirst, it stimulates, cheers, and if taken in sufficient quantity, intoxicates, and lastly, it nourishes and strengthens The power of quenching thirst depends on the aqueous ingredient which it contains, assisted somewhat by its acidulous constituents (carbonic and acetic acids), its stimulating, cheering or intoxicating power is derived either wholly or principally from the alcohol which it contains (2 or 3 per cent —in some stronger, 5 to 7, and exceptionally 10 per cent), lastly, its nutritive or strengthening quality is derived from sugar, dextrin and similar substances contained in it, moreover, the bitter principle of hops confers on beer tonic properties From these combined qualities beer proves a refreshing and salubrious drink if taken in (scrupulous) moderation, and an agreeable and valuable stimulus and support to those who have to undergo much bodily fatigue "

The above quotations are given because they tersely show the opinions held by many leading physicians fifteen years ago as to the tonic and nutritive properties of alcoholic beverages As you have doubtless perceived, however, the statements are very vague and general, and when closely scrutinized it will be observed that those beverages for which the greatest thirst-quenching, tonic and nutritive properties are claimed are the ones which contain the smallest percentage of alcohol This fact in itself should create the suspicion that the opinions expressed were influenced to a certain extent by inherited or acquired appetites or cravings, preconceived opinions or in extenuation of existing habits

Let us now glance at the physiologic effects of pure ethylic alcohol as determined by careful, accurate and painstaking investigations, with the aid of modern scientific instruments of precision It is generally conceded that alcohol is almost immediately absorbed into the blood Here it exerts a most pernicious effect on the red blood corpuscles, dissolving their iron and devitalizing them (Dr Wm Hargreaves), arresting their development and hastening their decay (Drs Virchow and Becker), as well as diminishing their oxygen-carrying capacity by lessening their power to absorb oxygen from the air in the lungs, by its strong affinity for water it absorbs a part of their moisture, causes them to shrink, harden and may even make them adhere in masses and so hinder their passage through the tiny capillaries (Dr B W Richardson) While in the stomach, instead of aiding digestion, as was formerly supposed, it has been shown by many careful observers that alcohol in very small amount actually retards the digestion, especially of proteids, very much This retardation reduces the amount of nutrient pabulum to be taken up by the blood, whose functional or selective activity as we have before seen is likewise impaired by the alcohol directly absorbed Nor do the evils end here, because the alcohol contained in the circulating fluids on coming in contact with the enveloping membranous sheaths which surround all the tissues and cells of the body, coagulates the albumin contained in their secretions, forming a thin white film over their surfaces, thereby impairing their dialyzing power and interfering with the free ingress of nutrient material for the upbuilding and renovation of the tissues and cells as well as obstructing the free egress of retrograde products or toxins on whose prompt elimination and destruction the healthy activity of the body depends

With the digestion retarded, the oxygen carrying capacity of the blood lessened and the assimilation of nutrient materials as well as the elimination of retrograde products and toxins greatly impaired by the clogging of the dialyzing membranes, we would logically infer that alcohol exerts a pernicious influence on the development and functional activity of the muscular and nervous systems, besides perverting and impairing the special senses and mental activity of those who use it (effects diametrically the opposite of those produced by true foods!), and this inference or conclusion we find fully sustained by incontrovertible facts As cogently stated by Dr Bunge 'Thousands of experiments on large bodies of men have been made and have led to the result that, in peace or war, in every climate, in heat or cold and rain, soldiers are better able to endure the fatigues of the most exhausting marches when they are not allowed any alcohol A similar result is observed in the case of the navies, and on thousands of commercial vessels belonging to England and America, which put to sea without a drop of alcohol Most whalers are manned by total abstainers " Arctic explorers endure the severe cold much better when they abstain from alcohol than when they use it, even in moderation Nor is this knowledge confined to physicians and physiologists, but the great business interests of the country are beginning so thoroughly to appreciate the fact that alcohol unfits men for doing the best work that many railroads and large manufacturing and mercantile establishments will neither employ nor retain in their employment persons addicted to the use of alcoholic beverages That alcohol lowers muscular force and endurance is very conclusively shown by the fact that those who engage in athletic sports must stop drinking if they expect to excel No prize fighter, ball player, oarsman or any kind of athlete can keep up drinking habits without so injuring himself in a few years that he is relegated to the rear as a back number The careful experiments made on a number of persons by Dr J H Kellog, several years ago, showed that muscular strength is diminished more than 30 per cent by the use of alcohol, and substantially the same conclusions were reached by the elaborate experiments of Prof C F Hodge, on dogs, as detailed in the *Popular Science Monthly* of March and April, 1897

EFFECTS ON THE NERVOUS SYSTEM

But while alcohol retards digestion, impedes assimilation and excretion, reduces the oxygen carrying power of the blood and inhibits the nutrition of the cells and tissues of the whole body, still it is on the brain, or indeed the whole nervous system, that its most far-reaching and malign influences are exerted

---

[3] Columbian Cyclopedia, Vol xii

The preliminary stimulation accelerates the heart's action, thereby increasing the amount of arterial blood sent to the brain This produces the stage of exhilaration, excitement, brilliancy and sometimes frenzy and delirium

"Owing to the loss of contractile power of the vessels, the increased blood-supply can not be returned to the veins from the brain with sufficient rapidity, and thus there is a block, causing impediment of the circulation, which ought to be free and unimpeded, to allow duly aerated fresh arterial supplies This is the stage of depression, of depression and collapse, when the memory fades, speech is thickened, voluntary movement ceases, sensation is dulled and consciousness fails This process frequently repeated sets up permanent tissue changes The covering envelope is so thickened and otherwise injured that proper nutriment can not be conveyed to the brain, and thus that organ is badly nourished The shape of the brain cells is altered, and the physical degradation of the cerebral substance sadly impairs the intellectual and moral faculties" (Dr Norman Kerr)

I believe the correctness of this picture can be vouched for by nearly every physician Indeed, good illustrations of it are constantly seen, sometimes even at medical banquets Nor is this all, for under the influence of alcohol the brain begins to think awry It can not think straight (Dr M S Holbrook), and its influence on psychic processes is curious, for while it renders them much slower, the individual under its influence believes them to be much quicker than usual (Dr Lauder Brunton) Indeed, experiments made in Heidelberg University show that the consumption of alcohol, whether in large or small doses, produces a tendency to paralysis of the mental faculties (Dr Adolph Barr)

In view of these facts, I am led to believe that the so called tonic or strengthening effects of alcohol are due more to its anesthetic and paralyzing power than to any true nutritive or tonic properties it may possess As Dr Kellogg has very felicitously said, alcohol is a "*nerve-fooler*" It makes the person who indulges in it believe his condition is very different from what it really is If he gorges himself with too much food, alcohol may quiet the protests of his digestive organs and paralyze him into the belief that it is aiding his digestion and increasing his strength, whereas it is doing nothing of the kind

While he may believe that his senses are keener and his powers of endurance greater, experiments with scientific instruments of precision have demonstrated that his acuity of vision is lowered, his power of hearing reduced, his sense of smell blunted and his taste so obtunded that he can swallow fiery and even caustic liquids without wincing, and his muscular strength, which he believes to be greatly augmented, is shown by the dynamometer to be materially reduced, and even his soul-stirring eloquence and poetic flights are largely discounted in the estimation of the man who has not been imbibing

Since alcohol thus deceives the person who uses it, and as most of the beneficial results claimed to arise from its use are based on the subjective sensations of those using it, I believe we are justified, after a careful consideration of all phases of the question, after examining the arguments for and against and applying to alcohol the same tests that we use in determining the utility of other substances used as food, in concluding that if it possesses any food value at all it is to a very limited extent, and that the dangers connected with its use are so great and far-reaching that it, as every other narcotic poison, should only be used after the greatest possible precautions have been taken to guard against its untoward effects

DISCUSSION

Dr Stuver, in closing the discussion—I do not wish to be understood as claiming that alcohol does not have any food value The point on which I wish to insist is, that in view of the great possibilities of doing harm, every case should be carefully investigated, and alcohol should not be prescribed in any form unless we are fully satisfied that its dangers and disadvantages will be more than compensated by its good effects in the patient's case In short, alcohol should be used with as much care as morphin, strychnin or any other poison, and not in the careless, indiscriminate manner in which it has been in the past

---

ALCOHOL IN HEALTH AND DISEASE

Presented to the Section on Physiology and Dietetics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY V D MILLER, M D

NEEDHAM, MASS

It is with some hesitancy that I present this subject for your consideration, knowing, as I do, the extreme differences of opinion in regard to the effects of alcohol upon the human system, especially in disease It is over sixty years since the composition of alcohol and its effects upon the human body have claimed the special attention of chemists, physiologists and philanthropists Since this time very many investigations and observations have been made, and numerous important and scientific works written by investigators whose names stand high in the annals of chemistry and physiology

Among the seventy-six known elements, there is one called carbon (chemical symbol C) This element is termed an organic substance, as it occurs abundantly in living matter, it is a waste product of animal and a reconstructive product of vegetable life—that is a food for plants and an effete matter of animals The atomic weight of this element is 12, and its quantivalence is 1, 2, 3 or 4, making it twelve times as heavy as our standard—hydrogen (H) It may replace atom for atom, or 1 for 2, 3 or 4 Owing to its great latitude of power it unites very readily with hydrogen, nitrogen, oxygen, sulphur (H, N, O, S) and their radicals, forming a great number of chemic compounds, among which are many of the new therapeutic remedies We also have sugar, fat, oils, ether, chloroform and alcohols

In forming these different classes of compounds carbon follows out definite and fixed laws from which it does not vary Through the decomposition of vegetable matter a gas is generated known as marsh gas ($C H_3 H$)—methane To this gas add OH and you have an alcohol There are many gases to which if you add OH alcohols are formed The alcohol ($C H_5OH$)—ethyl alchol—is the one used for medicinal purposes, and is one of the best solvents we have It readily unites with gums and resins, dissolving them, it coagulates proteids, because of its eagerness to unite with water (H_2O), generating heat sufficient to cook the contained albumin This is what takes place in the human tissues which contain albuminoid matter The heat generated by contact of alcohol and living albuminous tissue first coagulates the albumin and renders it unfit for chemic reaction

Professor Hodge of Clark University says that alcohol retards, prevents and is destructive in either large or small doses to normal growth and development, it lowers the working power

Dr Chittenden of Yale University says amounts of alcohol equal to 5 per cent are markedly injurious and retard digestion

Drs Zimmerburg of Germany and Marvaud of France by their experiments proved that small doses of alcohol increase the frequency of the pulse, that large doses increase at first, then diminish the heart's action, very large doses depress at first

Professor Martin of Johns Hopkins University, in his demonstrations of alcohol on the action of the heart, says that an ounce of whisky or brandy always lessens the force of the heart, but generally increases its frequency The habitual use of alcohol is certain to work a change in the muscular structure of the heart and arteries

Dr Woodbury of Philadelphia (Board of Health) says nothing in clincal medicine is more certain than that the continued use of alcohol stimulates the development of connective tissue all over the body, therefore it is a prolific source of disease

G Newton Pitt says 75 per cent of the cases of alcoholic neuritis and 20 per cent of cirrhosis of the liver was found on postmortem to have tubercular lesions, these lesions assume the fibroid form

Dr J F Pain of St Thomas Hospital, London, says that one of the effects of alcohol is to produce an accumulation of fat in the liver In speaking of its effects upon the nervous system he gives cases of paralysis of the phrenic and pneumogastric nerves, also changes in the peripheral nerves producing hyperesthesia, paresthesia, anesthesia, with loss of knee jerk at every stage, this symptom constituting the symptoms of alcoholic ataxia

Dr N S Davis says when alcohol is taken into the human stomach it is rapidly absorbed, carried directly into the blood, consequently it undergoes no digestion or assimilative change in the digestive organs and is not converted into elements capable of contributing to the growth or repair of the organized structure of the human body It has been many times detected as alcohol unchanged in the blood, liver, brain, lungs, kidneys and all the other structures of the body

Chemistry shows us that alcohol is not a tissue builder, containing none of the elements from which the tissues are made Its use in health can not be of any value It is true the grains from which it is made contain gluten, fibrin, etc —elements of great importance in the development of the human system—but in the production of alcohol a chemic change is produced, so that there is nothing which the tissues of the body can appropriate to their use, consequently, from a physiologic standpoint, we are forced to admit that its use in health even in small doses is deleterious Take, for example, a sensitive, intellectual young man, a specimen of anatomic and physiologic perfection, note the deleterious changes which the habitual use of alcohol has upon him The blood becomes impure, as evidenced by the red nose, pimples and blotches on the face his nervous system deranged, as evidenced by his coarse language, irritable disposition and high temper, often abusive to the mother to whom in former years he gave most reverential and respectful attention To the wife, whom he once adored and would have given his life to protect, he becomes cold, harsh and abusive, often treating her with contempt The children once his pride, he neglects or often robs, and to his best friends he even becomes insulting Will some advocate of the "social glass" explain to us the physiologic and beneficial effects of alcohol upon the brain in this case? If alcohol is of no benefit, but decidedly deleterious in health, can we find a use for it in disease?

Dr Samuel Wilks, F R S consulting physician Guy's Hospital London, says "I found it necessary to withstand the use of alcohol in medicine at an early period of my practice It lowers the functions, causes degeneration of the nerve centers and produces general paralysis, trembling lips, shaky hand, unsteady walk, muscles undergo a change heart becomes fatty, nerves hardened and thickened from neuritis Digestive organs morbid, loathing food Ulceration, thickening of the walls of the stomach and intestinal tract "

In speaking of alcohol as a drug I do not hesitate to say that those who give it believing it to be a stimulant are totally mistaken in its action In mitral disease of the heart it adds fuel to the fire There was a time when brandy was the universal medicine in fever At the present time its universality is abandoned A number of medical men hold fast to the old notion that brandy supports For my part, the reasons for giving it are erroneous At present its employment by judicious men is almost ignored, and they are certainly better practitioners than those who give it to every patient who had a weak pulse Our knowledge of the action of alcohol in disease is almost empiric, having so few principles to guide us So far as my observation goes, those physicians who use it in typhoid fever and pneumonia lose a large per cent of their cases, while those who treat these diseases without alcohol seldom lose a case

The effect of alcohol is to stimulate the heart to increased action and increased circulation and respiration In fever we have too rapid circulation and respiration with high temperature Why, then, give something to increase this condition? Some of our best physicians with large experience, while noting the increased action of the heart from the use of alcohol, find that its force or power is diminished May this not be the principal cause of the so called heart failure which many practitioners give as the *cause of death?* Alcohol being chemically a hydrate, must, on physiologic principles, increase the heat of the system, which contraindicates its use in all fevers Some physicians use alcohol in their practice because their preceptor or some writer used and recommended it, others because their mothers believed in and used it, and they, perhaps without being aware of it, inherited an affection for it In fevers we have a variety of remedies which have a tendency to lower the temperature and shorten the disease, of far more value than alcohol Our list of tonics (not stimulants) is numerous With a chemic knowledge of the elements of food and their different combinations we can feed and care for our patient so that very little medicine will be required Let us banish tradition and treat our patients upon common sense principles, then we shall have little use for alcohol

DISCUSSION

Dr C B Van Zant, Denver—The question as to the status of alcohol in health and disease is a large one and one that is arousing the greatest attention throughout the country Like every other question it has its extremes and a happy mean There can be no question that the pendulum is swinging away from the indiscriminate use of alcohol as practiced in former days This is true in our own profession, as evidenced by the fact that a large number of our best men are earnest members of the American Medical Temperance Association, which stands for a restricted use of alcohol in disease In my judgment, we ought to deal with alcohol as we would with morphia, recognizing that it is an agent both for good and evil I have long accepted as a maxim the terse statement of Austin Flint, Jr , that "whenever a sufficient quantity of food, to meet all the needs of nutrition, can be taken and digested, alcohol is not only unnecessary but injurious " This statement applies both in health and disease I think it is taking up an extreme position to say that alcohol never has a legitimate use either in health or disease, and in this respect the author's views fail to meet my own In moderate quantities it is surely oxidized, and if oxidized, it must be a producer to some degree of animal heat and force In disease, where a "sufficient quantity of food can not always be ingested and digested," the importance of the use of alcohol is apparent, as a temporary prop to the vitality of the patient It is only in these temporary conditions that we find its highest value in disease As an article of diet in health it is certainly unnecessary, if not immediately and tangibly injurious

Dr H R SLACK, Lagrange, Ga —I regret exceedingly that the author of this paper is not present, for I would like to inquire whence the quotation of Dr Martin was obtained It was my good fortune to have studied under Professor Martin at the Johns Hopkins University, and he taught "According to circumstances alcohol may be either a poison or useful, when useful it may be regarded either as a force generator or a force regulator It is sometimes a valuable medicine, but does no good in a healthy body Its proper use is as a whip, to stimulate the flagging energies, and it enables the physician to win many a race for life that otherwise might be lost " Dr Osler recommends its use strongly in typhoid fever, and in pneumonia says "It is the only remedy in many instances capable of tiding the patient over the dangerous period " There is no substance in the whole range of medicine concerning the uses and effects of which there is a greater diversity of opinion than alcohol, some as the writer, holding that these are wholly bad and that *"no good thing can come out of Nazareth,"* while to others it is an ideal stimulant tonic and food I hold an intermediate position, one that I consider the golden mean, and the position of Dr Martin as stated before I have seen many cases where its beneficial effects were marked It is a well known fact that the mortality from typhoid fever in the London Temperance Hospital has for the last twenty years been 15 to 16 per cent , much greater than in other hospitals where alcohol is used I believe that at present we have no medicine in the pharmacopeia that can replace alcohol as a stimulant, and in some cases its use is necessary

DIETETIC CAUSES OF INEBRIETY

Presented to the Section on Physiology and Dietetics, at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo June 7-10 1898

BY T D CROTHERS, M D
SUPERINTENDENT WALNUT LODGE HOSPITAL
HARTFORD CONN

Inebriety is one of the most complex neuroses and obscure border-land diseases known To the average practitioner the inebriate is simply a weak, wilful, vicious man, who has full power to do different but will not exercise it When the inebriate is examined carefully, and all the facts of his inheritance and of his nutritional, and also mental life and growth are grouped, a uniform progressive line of disease is found The pathologic conditions which precede alcohol and the conditions which follow from the use of alcohol, are marked in different degrees The former are not recognized and the latter only recently have come into prominence The use of alcohol is followed by conditions which differ very widely, and are unexplainable except by a study of preceding conditions before spirits was used One of these conditions is heredity, that is the transmission of defects and predispositions to degenerate in certain directions, with or without special exciting causes Another is nutrition, a third is disease and traumatism and its sequelæ, a fourth is culture and environment, and so on through a long list of causes In all cases, it may be said that the nerve centers suffer from practical starvation, and the narcotism from alcohol is grateful in covering up the irritation and pain demands for help In my studies the nutrition of childhood has been found to be an active cause in many cases I have divided these into the *overfed* and *underfed* cases In the former the clinical history would follow these general outlines The nursing child would be surfeited both at the breast and by infant foods The central thought of the parents would be the danger of starvation and the need of constant ingestion of food When indigestion followed, another nurse and changed foods in equal quantities would be given Later, when the child was able to occupy a place at the table with his parents, all discrimination was left to his own tastes, the parents reasoning that the appetite was the best guide and the child's food inclinations should be followed Anything the child called for as foods or fluids were given freely The disturbances of digestion which follow are usually treated as weaknesses and tendency to diseases Consumption, rheumatism, disease of the liver, stomach and kidneys, and other formidable diseases are discerned in the horizon by the worldly-wise physician Patent foods, climate cures, changes of school and culture and many remedies are tried Finally puberty is passed, and the digestion is permanently impaired The appetite is lawless and without control The body is ill-nourished Already fatty deposits have begun The demand for foods and fluids are mere impulses The taste is disordered Large quantities of certain classes of foods are taken, then abandoned The same of fluids, teas, coffees, mineral waters, beers, wines and anything used at the table

Indigestion and obscure or well defined nerve failures, nerve disturbances, irregularities of sleep all follow Then finally comes the subtle tonic bitters containing from 20 to 40 per cent of alcohol, or the wines or whisky, and inebriety has come The relief which spirits brings is so marked that it is continued and then follows a rapid sharp degeneration, and the inebriety is chronic and complex mental and physical changes appear, opium and other narcotics follow, changing from one to another This picture is not confined to children of wealthy persons, but occurs in all the various circles of society, in the families with moderate means, and occurs among children who are obliged to begin the serious work of life at an early age The dietetic delusions of parents are engrafted and graven in the minds of children and the end is inebriety Some of these cases take on paroxysmal forms, after spirits are used Thus, an attack of acute indigestion is followed by a drink craze which after a certain time subsides, and breaks out again after a free interval They become periodic drinkers, and when they die show in the postmortem remarkable stomach degenerations It is found that the sudden, unreasoning outbreaks of what is called alcoholism, or the use of spirits to prolonged intoxication, occur in those delusional dyspeptics who, from infancy, have had no dietetic or food control Such morbid eaters occur often among prominent men, and when they begin to use spirits they have no power of control and are soon pronounced inebriates In these cases digestion is early strained and stimulated far beyond the needs of the body, and the food, non-assimilable or in excess of the demands of the organism, accumulates and becomes sources of degeneration. Overgrowths, retarded growths, defective growths, with functional derangements both of physiologic and psychologic control follow. Excessive nutrition in childhood is a cause of inebriety in later life, both with and without special exposure, and often among persons who by environment would naturally not use spirits.

The second class of cases I have called the underfed. By that I mean persons who have been practically starved in many ways the first twenty years of their lives. The starvation has come from exclusive diets used from necessity or from theory, or from carelessness and neglect. In very poor families the food from infancy would be potatoes, corn meal or pork almost exclusively, or fruits in more tropic climates, in some form of liquid foods, no variety and one article almost exclusively. In other families, from theory, children would be forced to use one class of food and no others, as for instance meats, or grains, or fruits, to the exclusion of every other class of foods. In the larger proportion of cases, carelessness prevails. Children are supposed after the nursing period to eat the same foods as the rest of the family, and are given without discrimination anything which is prepared. No care is taken of their diet, no judgment is exercised as to quality, variety or nature of foods. At one time fruit is used to excess, or vegetables, or meats, or grains, according to the supply. In the family of a country grocer three boys, after a protracted period of indigestion, became inebriates. I found that the diet of the family was largely dependent on the surplus of perishable food which accumulated in the store. At one time it was eggs, then fruits, then grains, then meats. This diet was insufficient, and states of starvation and defective growth followed which led most naturally to the narcotic of alcohol. In another case two sons of a clergyman began to use alcohol to excess without any apparent reason. The theory of the parents that excess of quantity and variety of food was dangerous had been carried out from infancy. A limited and always insufficient quantity of potatoes and bread had constituted the daily food. When these children grew up they ate to great excess away from home. This, with starvation at home, broke up the normal nutrition, and the relief from alcohol was so great as to be irresistible. In a case of unusual mental ability where the user of spirits was of an exceptional character, and the effort to recover was of equal intensity to the craze for drink, it was found that regular, uniform diet of moderate variety of foods was medicinal. As long as his diet was mathematically uniform and unchangeable he could keep from spirits, but the slightest deviation in time of using food and their quantity and quality would destroy his mental control. It was ascertained that his mother, during pregnancy and lactation, entertained some opinions of foods and their value and put them in practice in her own case. The result was a very sensitive nutrient organization in the child, with anemic sick headache throughout childhood, great excesses at puberty in foods and drinks and continued nutritive disturbances up to manhood. Then a period of drug-taking and periodic inebriety. Now he is able to be a total abstainer only by the most careful attention to diet. There appears to be a close relation between the excessive use of meat in childhood and inebriety in early middle life. While the facts are not sufficient from which to draw any general positive conclusions, there are many reasons for supposing that often they are as cause and effect. This appears clear in this case. The parents in a family entertained very strong confidence in the value of meat as an ideal food. It was used and urged upon the children in all forms. One boy began to drink in college and died after a short period of great excess. A sister was hysteric and became a drug-taker, and died early. Later the parents abandoned meat for grains and fruits, and three children brought up on this diet have continued well and healthy. The conditions and surroundings are the same, but the vigor of the children varied widely. Beef eating foreigners who bring up children on this diet are astonished that their children turn to beer and wine so early. The reason is the early and deranged digestion which, calling for relief of some kind, finds it in alcohol. This question of the value or injury from meats and grains is yet to be studied and settled. After alcohol is taken to excess, the complications of nutrition are many and serious. One of the first essentials in treatment is the elimination of toxins and proper nutrition.

Foods of easy digestion with moderate variety and quantity, and taken at regular intervals are required. Concentrated foods may be useful in some cases and injurious in others. Frequent use of food and in large quantities is to be avoided.

Two conditions exist, impaired and defective nutrition and congestion from over-accumulation of toxins and waste unassimilable foods and starvation. The treatment is not by routine or specifics, either foods or drugs, but by the use of many and complex measures to meet the special conditions called for. Inebriety is not confined nor traceable to any special cause, and its treatment can not be successful by any one measure or form of drug. The unexpected outbreak of the drink craze in early life and the persistence of the use of spirits is unmistakable evidence of some central defect of nerve centers and neurons. These defects are most likely to come from nutrient degenerations in what way no one can tell, yet the facts point out a distinct relation.

The drug poisoning from alcohol, opium and other narcotics most clearly affects the nutrition, and in all cases is followed by veritable starvation and failure to assimilate the food required. Where causes are traceable to early life the degeneration is greater and the symptoms more complex. The same nutritive problems appear in all cases. The use of tea, coffee and wines at meals in early life is a starting point for both degeneration and inebriety later. Many of the most intractable cases of pronounced degeneration where the alcoholic symptom was maniacal have a history of early tea and coffee drinking. The facts fully sustain the assertion, that a large number of cases of inebriety are traceable to defective nutrition in early life. This may be both starvation and poisoning and the extreme persistence of these states is remarkable. Thus the bad living of childhood with its defects of nutrition may appear in later life as in the following. A child of healthy parents who were killed by accident was kept six years in the family of a German and wine drinker. He was over fed and given wine freely at the table, and was considered sickly. Then he was taken by another family and brought up very carefully and abstemiously. After a [illegible] life he retired from business at [illegible] to over eat and drink wine at meals, and finally became an inebriate Many cases are traceable where inebriety began at or before puberty, or after then subsided and later in life broke out again without any special causes The expression "sowing wild oats" often describes a period of excessive use of spirits and nutritional disturbances, and then a full subsidence and a long period of temperate living Far down in middle and later life a recurrence of this excess period appears again and often death follows Here there is a persistence of nutrient and poison effects, which breaks out like some masked fire which has been dormant for a long time The appearance of inebriety is usually sudden and without any exciting causes, and the change in conduct and manner of living is unexplainable The same methods of using spirits and the same food impulses and tastes, and same surroundings as far as possible, appearing after a lapse of a lifetime, show that early defects are not affected by time I conclude at this point with a summary of what I have intended to make clear in this study

1 Inebriety is a most complex neurosis The causes are equally complex, and include all the various states of degeneration which influence and disturb nutrition

2 Obscure indigestion begins, and for this drugs and bitters containing alcohol are used The narcotism which follows is so grateful that it is continued

3 Dietetic delusions are fostered in the minds of parents and children, and from this many different forms of inebriety begin

4 Often the most maniacal and chronic inebriates are from these delusional dyspeptics

5 Starvation is present in many of these cases The quality and variety of foods are deficient and defective nourishment follows

6 The uniformity of taking foods and the quality and variety are essential This and nutritional rest and mental anxiety are important factors

7 The inebriety following these conditions is successfully treated by elimination of the toxins and special correction of the nutrition

8 Nutrition is a very active cause in the production of inebriety, and should receive a careful study in all cases

DISCUSSION

D R Brower, Chicago—I am pleased to have heard the admirable paper of my distinguished friend, Dr Crothers No man can speak with more authority than he can on the etiology and treatment of inebriety, and what he says is as sensible as it is learned

It is very gratifying to see so much interest being manifested by the profession on the subject of dietetics, for there is no more powerful agent in the causation and cure of disease The recognition of the fact that imperfect digestion leads to auto intoxication, and this to development of diseases of the nervous system, and the further fact that inadequate or improperly cooked food will produce the same result have been of much benefit to all concerned

The publication far and wide of further facts that tea and coffee in childhood will develop a taste for stimulants that later along will produce inebriety, will save many from this dreadful state The use of tobacco by the young may also be an important factor in this same pathogenesis

Dr Crothers (in closing)—The special object of my paper was to call attention to the injuries which always follow the use of alcohol in children A very large amount of experimental evidence from the laboratory, in the use of alcohol on animals has been gathered for other purposes, which makes the facts conclusive The disability and defects of children in all circles of life who have used spirits freely in childhood are to be seen in every town and country I am pleased to most heartily agree with the speaker who preceded me, in the statement of the skill in promoting the growth of animals, in fattening them, in developing their best qualities, so highly developed among stockmen and farmers, while the development of children physically through food channels, is totally neglected We are on the frontiers of a new field of much important work, prominent of which is to clear away the delusions which infest our conceptions of child growth and dietetics One of these delusions is the food value of spirits and its harmlessness in early life Our foreign population have strong views of alcohol or beer in childhood Many others cling to the idea of stimulation and increase of vigor from spirits These delusions must be overcome and a clearer conception of dietetics as a whole must follow, then we shall do with children what farmers do now with animals

---

TUBERCULOSIS ITS HYGIENE AND DIETETICS

Presented to the Section on Physiology and Dietetics at the Forty ninth Annual Meeting of the American Medical Association, held at Denver, Colo June 7-10 1898

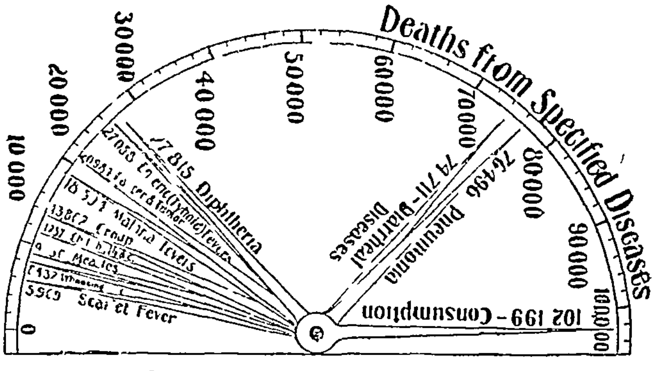
BY A T CUZNER, M D

GILMORE FLA

Tuberculosis in some form or other may fairly be considered the almost universal disease of man "Schlenker made 100 consecutive postmortems on adults and children He carefully examined every part of their bodies and found 65 per cent tuberculous In over 4000 successive postmortems made in Breslau in 1893, one-third of the bodies contained gross tuberculous lesions If the microscope had been used, probably enough lesions could have been discovered to make 2500 infections Babes found lesions of the bronchial glands in more than one-half of his postmortems on children Biggs could demonstrate characteristic lesions in the lungs alone in 60 per cent of his postmortems Grawitz found primary tuberculous deposits in the lungs in 152 out of 221 cases, being nearly 70 per cent of all infections Loomis found the bronchial glands infective to rabbits in eight out of thirty bodies apparently free from tuberculosis during life "

Upon examination of the death records of thirteen prisons located in different parts of the country, we find the deaths from tuberculosis to be 59 9 per cent Doubtless tuberculous deposits could be found in the 40 1 per cent remaining

In an article in a September issue of the *Illustrated American*, Prof Fletcher W Hewes publishes a dial illustrating the ratio of deaths in, the United States from the most prevalent diseases This is a reproduction of the dial



In proceeding with our investigation of this disease, it will be as well to consider as briefly as we can 1, the cellular pathology of the human tissues, and then in addition, what is known of the pathogenic germs thought by many to be the main cause of the disease 2, the nature of tubercle, from which the disease takes its name, and 3, the hygiene and dietetics of this complaint

CELLULAR PATHOLOGY

Animal tissues are resolvable into an aggregation of morphologic units or cells, each having a life history of its own At their death they are resolved into effete material, very deleterious to healthy cells, if retained in the tissues Many tissues when diseased become the home of minute forms of life—pathogenic bacteria All cells are the result of the life of previous cells, "*omne vivum ex ovo*"

In the course of its development, every cell proceeds from the condition of a unit, in which it resembles every other morphologic unit, through a series of stages of gradually increasing divergence, until it becomes an element or part of a special tissue The vital functions of the cell may be enumerated as follows Contractility, irritability and automatism, reception of nutritive material and its assimilation, metabolism, secretion, excretion, and finally reproduction All cells are sensitive to and influenced by their environment They are repellent to deleterious influences in proportion as they possess that force or principle which we call vital On the contrary, as they lack this force they are open or subject to the invasion of disease This may be in the form of toxins, or pathogenic germs, or both combined

The healthy cells of animal tissues are antagonistic to the invasion of disease All cells, whether of animal or vegetable origin, fulfill alike the law of their being, derived from a parent cell, they are nourished, develop, reproduce and die During their life history they are favored or injured by their environment and circumstances over which they have but slight control

Take, for example, cells of animal tissue exposed to contact with the atmosphere and subject to its vicissitudes, such as low temperature and sudden changes, their force (we call it vital) being reduced to a very low ebb for the time being, in contact with such cells is brought the ubiquitous microbe and there is at once inaugurated a conflict, which will come out victorious depends on various circumstances If the animal cell has sufficient resistance, then the microbe is a failure On the other hand, should the vitality and resisting power of the cell be very low, and other circumstances favorable, then the microbe is rampant This may be called the irrepressible conflict sung of by the poets

BACILLI

Bacteria, microbes, schizomycetous fungi, are minute vegetable organisms causing the different known fermentations, and found associated with certain diseases, of which they are considered by many to be the cause

"Bacteria in shape show three varieties—*bacillus*, pencil or rod, *coccus*, a ball, and *spirillum*, a corkscrew" Tubercle bacilli are in length one-half to one third the diameter of a red blood corpuscle, and their breadth is about one-fiftieth of their length (See Fig 1 a)

BACTERIUM

There is a cycle of changes in the life of a bacterium that is shown plainly in the illustration First, *a*, the spore is seen to lengthen to *b*, and forms a rod *c* This by elongation and by fission produces more rods, *d* These remain apart, *e*, or join together to form a chain, *f* Some of the rods lengthen into filaments, *g* These develop spores, *h* The spores being set free, *i*, the series of changes begins again

"For thirty-five years observers have noticed the bacillus of Koch living with the vinegar yeast Botanists were divided in opinion whether they were inseparably a part of the life history of the mycoderma aceti, though nearly always found associated Some botanists thought they were indispensable parts, and some thought not *They are the babies of the vegetations, and can be propagated as babies*" (Ephraim Cutter)

"I have long ceased to regard all the bacilli, micrococci and bacteria as the ultimate forms of animal or vegetable life I look upon them as simply the embryos of mature forms, which are capable of propagating themselves in this embryonal state" (Salisbury–McNaughton's prize essay on Malaria)

Microbes play a very important salutary part in the science of agriculture They act as nitrogen suppliers to the soil They are very useful to the dairyman, causing as they do that peculiar fermentation that renders cheese so palatable They are ubiquitous The air we breathe swarms with them This is proved by Professor Tyndall The food we eat, the water we drink, alike furnish them an abiding place

The writer's view of the functions of the microbe is as follows The cell formation of our bodies is constantly dying, as the life force leaves it and its work is done The same principle holds good throughout organic nature All organic tissues undergo three distinct phases in their history—growth, decay and disintegration, and these three processes may go on simultaneously In consequence of the dying of the cells, there is a continual accumulation of dead matter that must be disposed of by some process or processes As one of these, the microbe gets in his work Each microbe has his own particular work to do In certain stages of tuberculosis we find more than one microbe associated with the disease I do not think microbes deserve the ill repute in which they are held When the human organism is diseased, microbes are found to be much more abundant, the dead matter to be changed and eliminated requiring much more work on their part Like the buzzard, they are always ready to remove dead and offensive animal tissues They also act as media of disease just as flies do They have likewise the power to impose upon the cell a certain amount of force, that tends to produce a condition most favorable to their disintegrating work

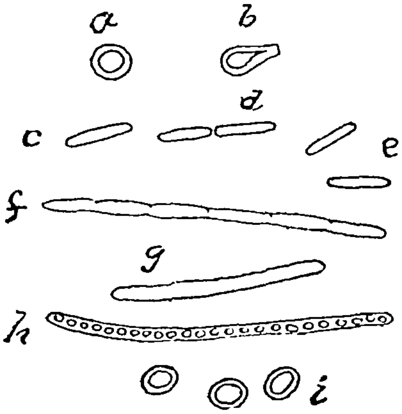


Fig 1 —Bacterium

Dr Austin Flint admitted the importance of the tubercular bacillus in disease and, as quoted by Dr H B Weaver, said "You take away their lives when you take away the means by which they live

Dr Andrew H S [illegible] by the [illegible], said, in speaking of phthisis: "The fact should be recognized, that tubercle bacilli never become implanted in the healthy system. There is always an abnormal anterior condition that should receive our attention. By sufficiently improving the nutrition, you lift the patient above the plane on which the bacillus flourished."

Solis-Cohen, also quoted by this same author, says: "To make our conception of the disease sufficiently comprehensive, we must include other elements than the bacillus and the changes in cellular structure or chemic constitution of solids and fluids brought about by its activities. That condition which makes the human tissues a 'receptive soil,' a favorable 'culture medium' for the tubercle bacillus—that condition which of old was called a 'diathesis' or 'susceptibility,' is *itself* a disease, a departure from the *norm*, and I believe it to be the most important element in the morbid complexus termed tuberculosis. It is the element requiring the greatest care in the prophylaxis, the most intelligent and faithful treatment."

Dr. Weaver says: "We believe this cachexia, this predisposition, which may be inherited or acquired, is a defective nutrition, superinduced by a want of vital energy, which has its correlative in the histologic expression, in the place of normal tissue, elements of abnormal condition and lowered vitality. We know that tuberculosis is not the product of a truly inflammatory process, neither is it a neoplasm, for it tends neither to resolution and repair, nor to proliferation and persistence. It tendency is to destruction without subsequent repair. It is necrosed coagulation without blood-vessels, without cell organization, without life—*it is death*."

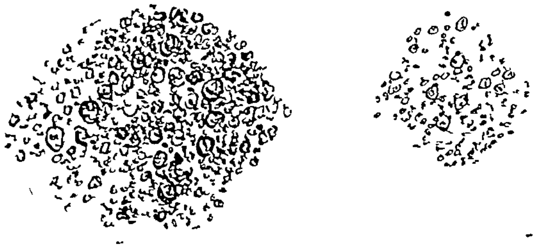


Fig. 2.—a, yellow tubercle. b, gray miliary tubercle.

Dr. Weaver goes on to say: "Therefore, we conclude with Cohen, that when, in the course of ordinary wear and tear, or extraordinary wear and tear, or following inflammation or injury, or from any cause or combination of causes, degraded tissue elements have been produced, it is highly probable that the tubercle bacilli or other microbes, finding therein a favorable soil, modify by their activity the further evolution of the disease."

Consequently, in summing up the facts, as reflected by both observation and experience relative to the causation of tubercolosis, we think we are warranted in the following conclusions: 1. Malnutrition is the starting point of tubercular process. 2, While the bacillus of Koch is perhaps, the most important of the several microbes that influence the progress of the lesion in the various forms of the disease, yet it does not itself originate the disease in any form. 3. Both factors—the dyscrasia and the bacillus—must exist in combination before there can be tuberculosis."

TUBERCULOSIS

In the days of my student life, it was held and taught, that phthisis pulmonalis was caused by the deposition of tubercles in the cells and tubes of the lung tissues, and the changes this material "suffers and works." While this position has not been wholly abandoned at the present time, it is now considered by a majority of the profession, that the tubercular bacillus of Koch is the main predisposing and exciting cause of consumption. The endeavors of the bacteriologist are, therefore, mainly directed to the destruction of the germs within the body and preventing access of fresh germs from without.

The following synopsis of tubercle is from the works of Charles J. B. Williams: "Tubercle presents the following characters: When first deposited it is a clear viscid, albuminous substance, becoming more and more solid by coagulation, as does fibrin, but differing from it in being incapable of organization. When more or less solidified it loses it transparency, becoming grey, yellow or drab. Uusually it is friable and of caseous consistence. Tubercle may be variously deposited in small, isolated points termed "miliary", in granular masses, distinct or confluent, infiltrated diffusely into parenchyma, or aggregated in a mass, and enveloped by a cyst composed of surrounding tissues, thus constituting a tumor. [*The formation of this substance is merely a perversion of nutrition.*—Cuzner.] This is the commencement of the change to which the lowest forms of tubercle tend—that of maturation and softening."

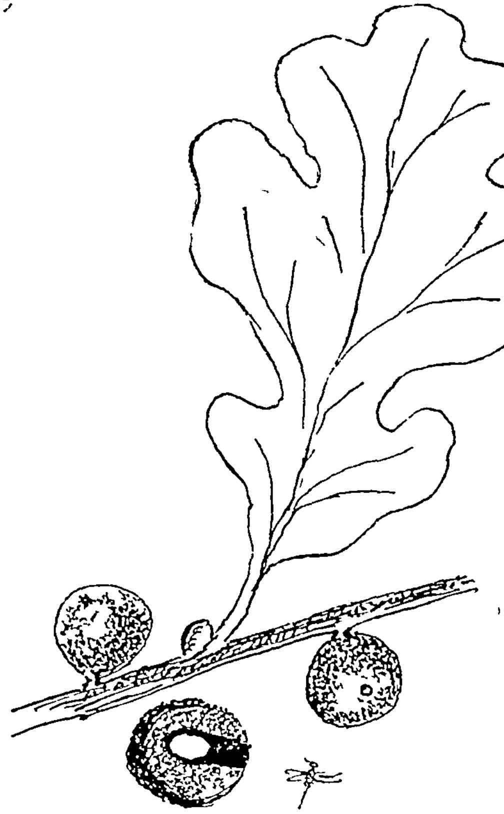
Rokitansky thus describes the softening of tubercle: "After the tubercle has existed for some time in a state of crudity, it becomes, as it were, loosened in the textures, and breaks up on slight pressure and becomes more moist, then changes into a yellowish dissolving casein—like fatty and viscid matter. In the different changes in tubercular matter, as well as in the original deposition of this matter, the adjacent living parts have considerable share. A miliary tubercle from its first formation may become a cause of irritation to contiguous textures. The amount of this irritation and obstruction will depend on the natural excitability of the part, its functions, situations and size of tuberculous deposit."

The following is from the JOURNAL, from the pen of John McFarlin, M. D.: "Tuberculosis is primarily an inflammatory process. Every tubercle begins its history as a single inflammatory node, not very different from those produced by the introduction of foreign particles in the tissues. In the early stages of the disease there is rarely any marked symptomic involvement, and many cases progress to the considerable destruction of organs before constitutional symptoms are observed. Up to a certain stage, therefore, tuberculosis is not essentially different from any ordinary or non specific focal inflammation. It is as the disease progresses that the difference is observed, for as the cause of the disease is alive and engaged in growing and propagating its kind, there is a progressive tendency of the disease-producers to disseminate and new inflammatory foci to form, and, as growth means metabolism, there are waste products of the growth to be absorbed and eliminated.

"This is by no means all of the pathology of the disease. The tubercles develop at the expense of the organs whose tissues, transformed into or replaced by the tuberculous tissue, are unable to perform their functions or do these so insufficiently that disease must result from their incomplete action. Lastly, the tuberculous nodes, in which no blood-vessels are formed, constantly soften and disintegrate with the frequent formation of holes or cavities, in which, if they communicate with the outer air, saprophytic bacteria are likely to grow and the harmless, or oftener harmful, results of their metabolism are absorbed into the blood Death is more often the result of destruction of organs, suspension of vital functions from local lesions and profound secondary anemia, than from any poisonous principle in or produced by the bacillus "

INEBRIETY AND TUBERCULOSIS

Dr T D Crothers, in an article in the April JOURNAL, on the subject, "Inebriety and Tuberculosis," says "Alcohol acts on the body psychologically, physiologically and pathologically, and is literal paralysis and dissolution No other substance known, in common use, has such profound destructive action on waste and repair of the body This opens the door for many diseases by destroying the power of resistance and enfeebling all the powers of life " Speaking of inebriates, he further says "In my experience with 2000 cases, fully 20 per cent are associated with tuberculosis " . "The use of alcohol results in deranged functions and disturbed energies The two central processes of life—waste and repair—are affected, the first increased and the last diminished "



As we stated before All cells are sensitive to and influenced by their environment The microbe has the power to impress upon the cell a certain amount of influence that tends to produce a condition favorable to its disintegrating work To illustrate how it is possible for one organism to influence another so as to minister to its wants, we will state the result of some studies we have made in natural history We will examine a common gall called "oak-apple,' the result of the puncture made by a small fly called "Cynips," of the order *hymenoptera* (see illustration) Galls are vegetable deformities or excrescences, due to parenchymatous hypertrophy, and according to the definition of Lucaze-Duthiers, comprise "all abnormal vegetable productions developed on plants by the action of animals, more particularly by insects, whatever be their form, bulk or situation " The Cynips appear to prefer to puncture the limbs, twigs or leaves of the plants subject to their ravages, *that are not possessed of as great a degree of force or vitality as the remainder of the plant* The influence of the puncture of these insects, or of the poison they inject, or of the egg they deposit by means of their ovapositors, or of all three combined, has such an effect on the infected vegetable tissue as to cause them to become hypertrophied and take on a further growth and development, by means of which the egg, larva and future fly are provided with a home and sustenance until such time as the fly is prepared to quit the gall In addition to this (as will be seen in the illustrations from life) the grub and future fly are incased in an egg shaped cell which is inclosed in a cavity in the interior of the gall Leading from this cavity to the rind of the gall, so to speak, is a canal In the ovoid cell in the interior of the gall, the grub is so placed that the future fly has its head always pointed toward the canal leaning to the exterior covering When the fly is fully matured, it gnaws through the thin ovoid cell, and crawling through the canal until it reaches the exterior covering, punctures the same and escapes

CAUSE OF DISEASE

In summing up from the above examination, I think we may reasonably conclude *that tuberculosis is a disease of malnutrition of the tissue elements of the body*, that the bacillus, while it has considerable work to do and has great influence over the course of the disease, *is not the prime factor or cause* We may further conclude from the vast clinical experience we have in evidence that there is no known germicide that is capable of destroying the microbes without causing destruction of the tissues or the life of the patient, and that all measures adopted in the past to destroy the bacilli have not obtained sufficient success to warrant us in looking in that direction with much hope for the future

The bacilli, as we said before, are ubiquitous If we destroy those in the body today, we have our work to do over again tomorrow We can not continue indefinitely to act the part of executioners Are we then to abandon the field as beaten scientists? Not while there is so much to encourage us in the clinical experience of the past

Since writing the above, we read a curious account of the death of five out of the six Esquimaux Lieutenant Peary brought to the United States They all enjoyed good health as long as the blubber they brought with them lasted After it was all gone they began to pine, and successively became affected with coughs and lung troubles, finally they all died but one, this last was also expected to die, if not sent back to the arctic regions

CURABILITY

Notwithstanding the great mortality from the disease, overwhelming testimony is accumulating daily to the effect *that if taken in its earliest stages before the system is exhausted by its inroads, it* [illegible] *and has been, cured in* [illegible] *stances* [illegible] ho
that has ma[illegible] but can
trices found [illegible] ult of
former tub[illegible] stin

teach in Bellevue, over thirty years ago, that the disease was curable if taken in its earlier stages

The following is from the pen of E B Borland, M D, and is taken from the JOURNAL "Tuberculosis, uncomplicated with sepsis, may be considered a curable disease, in the sense that it may be held in abeyance, that is to say, kept in a latent condition for a lifetime, providing the vital resistance of the individual is kept up to the normal standard Nature has been known to completely eradicate in a limited number of cases"

There are without doubt many more recoveries from tuberculosis than the average physician or the laity have any idea of The postmortems of Schlenker, Babes, Biggs and Grawitz demonstrate this, as is shown in the begining of this article It is a common belief that *no one has consumption who does not die of it*

Continuing, Dr Borland says "The scientific physician will endeavor to imitate nature as far as he can interpret her methods Investigations in search of an antitoxin have demonstrated that there is no immunity against tuberculosis when the three essential factors of infection, viz, debility, abrasions and bacilli are present [*If there is anything in the theory of immunity a child born of an infected mother ought to be less liable to infection, other things being equal, on account of its being almost constantly inoculated with toxins during intra-uterine life* —Cuzner] The question arises, can tuberculosis in its latent stages be cured in all, to all intents and purposes? It has been demonstrated that two-thirds of all infections either disappear or remain quiescent during an average life If nature can accomplish so much under the reign of empiric medicine what will she be able to do when the physician concentrates all his energy on building up and maintaining the vital resistance of cell-life, and keeping septic germs, as well as tubercle bacilli, away from the latent infection?"

The following is also from the JOURNAL, by John Hey Williams, A M, M D "Eighteen years ago I was myself an invalid, suffering from supposed tuberculosis I say supposed, having then no means of positive diagnosis I was advised by such eminent authorities as Da Costa, Weir Mitchell and the lamented Pancost, that I could not live a year longer in Philadelphia, and that a change of climate was necessary My attention was drawn to North Carolina by the writings of Hon E J Aston and the reports of Dr J W Gleitsman A few months' residence in Asheville, and a more thorough knowledge of its climatic attributes, decided me to take up my residence there With passing years came confirmed health, and I have remained eighteen years with pleasure and profit"

The careful reader of what has already been written, will doubtless arrive at the same conclusion as the writer, viz, *that this disease is caused by, or is the result of, malnutrition of the tissues involved,* that the microbe takes an active part in its manifestations, and that the disease is curable

As to the treatment indicated Shall we endeavor to destroy the microbe, and with this object in view continue to experiment with *serum therapy,* or shall we by a rational system of hygiene and of nutrition, build up and fortify the system against the inroads of the bacillus?

As to hygiene There can be no doubt that an abundance of pure air and sunlight go a great way toward arresting this complaint, therefore those afflicted with this disease in its earliest stages, should by the advice and direction of their physician, seek that country where the largest amount of each can be obtained during the year

CLIMATE

There has been considerable difference of opinion, and much discussion as to the most desirable climate for preconsumptives The writer prefers Florida as a place of residence for such, for the following reasons 1, in Florida there are more days in the year in which it is possible for a patient to be out in the open air and enjoy the sunshine, than can be found in any other State, 2, the climate and temperature are more equitable than in any other State This is my personal experience of ten years, and is in accord with the reports of the U S Weather Bureau However, each patient has idiosyncracies of constitution which render him or her a law unto themselves in this respect as to climate Some patients do better in mountain air, while others receive much more benefit from a voyage on the ocean Some are better served by a dry air, others by a moist one I think it may be safely affirmed that the average individual but seldom uses over 75 per cent of the air-vesicles, 25 per cent remaining in a collapsed condition These unused vesicles are prone to take on disease I hardly need remind any one that failure to use means partial paralysis Again, the object of respiration being to obtain a supply of oxygen to be used in the vital functions, any diminution of the supply means low vitality

There is a very instructive article in the *Medical World* for October, 1897, of which the following is a synopsis " Dr W F Ball, Mountain Station, Ohio, writes that in 1851–2, he contracted a dry, hacking cough, with morning expectoration, had chills and hectic fever for months, and lost much flesh, was pronounced by several physicians as incurable At this time an old Canadian doctor visited his father 'He examined me thoroughly, and said there was only one way to save me, which was to carry out his instructions faithfully I was to sit up in bed and throw shoulders up and backward, filling the lungs with air to their utmost extent, until pain would warn me to stop, then to press down on the air to make it fill every cell The closed cells, which were sealed by adhesions so that they could not be opened, were thus surrounded by healthy cells, and the diseased tissue would suppurate and be thrown off It worked exactly as he told me I have practiced these inhalations for over 40 years, and I can now, at the age of 62 years, expand my lungs to such extent as to increase my chest measure five inches, and I never have a cough to trouble me '"

HYGIENE

It was formerly held that breathing the same air with a consumptive was highly dangerous It is now believed that only the desiccated sputa breathed into the lungs is infectious There can be no doubt that a certain amount of morbid material is exhaled with each expiration Carefully conducted experiments with the condensed moisture from crowded auditoriums prove this Very highly offensive putrid albuminoid substances have been obtained in this way Crowding consumptives into large sanitariums, in my opinion, is not good practice Far better for such patients to live in homes by themselves and attendants

"Sunlight is nature's disinfectant, and experiments have shown that direct exposure to its rays for a few hours will destroy such germs as tuberculosis The old method of exposing infected linen, carpets, etc, to the sun has thus been proven of value, and the rays of the sun must often destroy many of the bacteria present in infected hospital wards This influence is also beneficial in destroying many of the bacteria deposited upon the surface of the earth, and even the upper layers of rivers must be somewhat purified by the agent" (Prof A C Abbott, Philadelphia)

The sputa should be received into paper receptacles to be afterward burned We find in nature, that living beings, animals, plants, and living tissues, whether of animal or vegetable origin, are continually undergoing certain processes, viz growth or development, decay or death Both these processes go on simultaneously Professor Hammons says "If we could perfectly adjust these so as to balance each other, man might live on forever" By a partial adjustment, we have increased the average longevity several years

If the excreta of any kind are retained in the tissues, they produce disease, which is a slow form of death If, after they are removed from such tissues, they are absorbed or applied to other living tissues they produce disease If not thus absorbed such *excreta* undergo further change or decomposition when exposed to the action of heat and moisture in the open air, evolving during such process foul gases very injurious to life But when placed in that great stomach of nature—Mother Earth–they are so digested that they are capable of becoming, by the absorption of different plants, parts of living organisms In densely populated communities the sewerage system of disposal of excreta is adopted

In an editorial in the London *Lancet*, the editor, in speaking of the sewerage system says "After all, it is not a perfect success Besides defiling the Thames to such an extent that the stench from it is quite perceptible, the gases that arise from the opening of the sewers at every corner, and are inhaled by the passersby, are largely the cause of the many cases of diphtheria and typhoid fever which exist in this city"

It is a query in my mind whether it may not be better for us to modify our plans of disposing of the excreta and waste material of cities, whether the sanitary laws adopted by the Jews under the instruction of Moses would not be better We find that the Jews had their Gehenna, or hell fire located in the valley of Gi Hinnom, outside the walls of Jerusalem In this fire was consumed all that was vile and likely to taint human life Without discarding the sewerage system, might we not supplement it more fully than is done at present by the crematory system of disposal of all offensive substances? In the family this process might be more largely used Let everything be burned in the stove that can not be passed down the sewers, or buried deeply in the ground, if they live in the country Col George Waring of New York states that "the foulest sewerage water passed through ten feet of clean sand comes out clean and pure" This brings us to the consideration of a water-supply

PURE WATER

It is very important that tuberculous patients should have an abundant supply of pure water Water being a universal solvent of organic material, it is therefore very necessary that no filtration from closets or cesspools be allowed to contaminate the source of supply I prefer and instruct my patients to drink large quantities of hot water, as I believe this promotes excretion of deleterious substances from the body, and adds to its functional activities Frequent bathing of the body is of great use to patients A sponge bath at night will often allay excitement and give patients rest

EXERCISE

Light exercise should be indulged in as far as the strength will permit, especially lung exercise Many individuals with lung trouble have been cured by learning to play the cornet

DRUG THERAPY

Every qualified physician will administer such drugs to his patient as may be required by the particular phase the case may present from time to time Before leaving the therapy of this complaint I will record my experience with those medicines we may properly call reconstructives, viz, nuclein, either Auld's or Vaughn's or the protonuclein of Reed and Carnrick Either of these should be administered continuously for months, even after the patient has seemingly recovered from the complaint The administration of these preparations appears to be, to increase and improve the blood elements of the body

DIET

We now come to what, in my opinion, is the most important part of the treatment of tuberculous patients, viz, the diet With regard to diet, it should largely consist of animal foods Of these, eggs and milk should preponderate I prefer to give eggs raw when tolerated The albumin of the egg is similar to blood albumin, and is digested, or rather, it is absorbed into the blood without undergoing an elaborate digestive process I have found the white of the egg mixed with water, tolerated when the yolk could not be borne by the stomach Bone marrow of the ox is of greater value than cod liver oil Good creamery butter should be used freely, and to accomplish this result it should be spread *thickly on very thin slices of bread* Heavy meals should be avoided, but food should be partaken of in small quantities between meals

Beef feeding, as introduced by Dr J H Salisbury, and largely practiced by Dr Ephraim Cutter and others, is a wonderful power for good in the nutrition of consumptives Beef-tea made from beef-extract, I consider positively injurious It taxes unduly the excretive functions of the body, and has very little nutritive value It is largely stimulating in its action When I use beef-tea in my practice I have it prepared as follows Take a small quantity of gelatin, say about one teaspoonful, and dissolve the same in a cup of hot water When dissolved add a small quantity of extract of beef for flavoring and stimulating purposes, then add a little salt and pepper Fruit should be partaken of freely In fact, the aim of the physician should be, to endeavor by means of all the resources that the science and art of medicine has placed at his disposal to add to the digestive and assimilative powers of his patient, and thus give him or her the greatest chance for a cure of the diseased tissues I might continue this subject of feeding indefinitely, but enough has been written to show its supreme impc

INFLUENCE OF THE MIND UPON THE BODY AND ITS RELATION TO EDUCATION

Presented to the Section on Physiology and Dietetics, at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo June 7-10 1898

BY RANDELL HUNT, M D
CHAIRMAN OF SECTION ON PHYSIOLOGY AND DIETETICS, A M A
SHREVEPORT LA

Involving, as this subject does, a comprehensive knowledge of the brain, nervous system and body, their relations and inter-relations, connections and nice dependencies, an overestimate of it is impossible Though its importance has been recognized for centuries in all the great philosophic treatises of the Aryan peoples, the ideas presented in them have been so entirely spiritual and ethical as in no way to suggest the existence of the psycho physical law underlying the whole

The first to clearly perceive and appreciate the existence and potentiality of a psycho-physical law underlying the phenomena arising from the influence of the mind upon the body were Unzer and John Hunter Since their time, the subject has been ably studied by such men as Muller, Elliotson, Laycock, Braid, Carpenter, Tuke and Haidenhain, who have assiduously devoted their lives to the scientific elucidation of this problem upon purely psycho-physiologic principles Such is the fruit of their inestimable labors, that the medical profession gives to these workers its highest gratitude and respect, and perceives in the future development of man the raising of a monument to them more lasting than stone, for their researches have practically established the fact that no mental modification can occur without a corresponding change in the body

A primary purpose of this paper is to demonstrate that through Intellect, Emotion and Will the mind exerts an enormous influence for good or for evil upon the sensations, movements, and organic functions of the human body

Intellect is the power of the human mind that adapts means to an end, guides the feelings, and enables its possessor to find out and act through knowledge It acts upon the body more particularly through imagination with which expectation, sympathy, belief, faith, imitation, and hope are closely associated Attention also plays a remarkable part in consciousness, in its relation to physical phenomena, and though in one form, an act of the will must be included under this head, prolonged attention giving clear consciousness and good memory, while mind, through attention, concentrates and perceives itself—knowing, feeling and willing The persistent development of attention is one of the most important and practical factors of successful education, increasing, as it does, the natural growth of perception and conception, which are aptly termed by James the very backbone of our thinking

The production of psycho-physical phenomena through active attention was understood by John Hunter, who says "I am confident that I can fix my attention to any part until I have a sensation in that part," while the power of ideational upon sensational centers is affirmed by Muller, who shows that "ideas do not act merely upon the motor apparatus by which they are expressed, but as frequently affect the organs of sense, which then present sensorial impressions or images of ideas" Insensibility to physical pain occurs when the attention, modified by expectation, is powerfully arrested in a specific channel, the body failing under the circumstances to appreciate even the application of strong stimuli "During the year 1862," writes Dr Braine of Charing Cross Hospital, "I was called upon to give chloroform to a very nervous and highly hysterical girl, who was about to have two sebaceous tumors of the scalp removed On going into the operating theater, it was found that the bottle containing the chloroform had been removed to the dispensary, and on testing the Snow's inhaler, which at that time I was in the habit of using, I found it to be quite devoid of even any smell of chloroform Then, having sent for the bottle, in order to accustom the girl to the face piece, I applied it to her face, and she at once began to breathe heavily through it When she had done this for about half a minute, she said 'Oh, I feel it, I feel that I am going off,' and as the chloroform bottle *had not arrived*, she was told to go on breathing quietly At this time, her hand, which had been resting across her chest, slipped down by her side, and she did not replace it I thought I would pinch her arm gently to see the amount of discomfort her hysterical state would induce her to bear She did not notice the pinch, and to my surprise, did not seem to feel it at all Finding this was the case I asked the operator to begin, and he incised one of the tumors, and then as the cyst was only slightly adherent, pulled it away The doctor then tried the same experiment again, and without any trouble or pain removed the second tumor"

The rejection of the contents of the stomach as the result of expectation is well exemplified by an experiment made by Dr Durand He gave sugar-water to a great number of patients at a hospital, then, pretending alarm, said he had made a mistake and given an emetic, the immediate result of which statement was to cause four-fifths of the patients to be really very sick

2 Emotions are our capabilities to feel in view of ideas, are occasioned by knowledge, and "are strung on ideas as pearls on threads of gold" Some of the emotions look to self and are called "egoistic," others are termed "altruistic," because they look to others, but the emotions that look to the truth-world and duty world are called "cosmic," and by physiologists are located in the optic thalamus, quadregemina, pons, and medulla They act through the cerebrum, upon which they are dependent for ideas, and through the sensory ganglia, by means of which are produced the feelings with which they are associated That the medulla is the seat of the emotions suggests naturally that undue excitement, in whatever way caused, produces through the vagi and other nerves that arise from it like effects upon the organs to which they are distributed Emotion may act upon the sensory glanglia and centers of the nerves of sensation, thereby producing any of those sensations ordinarily induced by impressions upon their periphery, and, though really central, these sensations may be referred to the periphery by the terminals, endings of the nerves Claude Bernard asserts that the same nerve may transmit the sensory current in either direction, to or from the brain Other emotions occur, due to the influence exerted upon the sympathetic nerves, as in creepiness from fear Shakespeare describes the effect of shame upon the ear in the following couplet

Mine ears that to your wanton talk attended
Do burn themselves, for having so offended

Prof Ball of Paris tells of an unfortunate fellow that had a quarrel with his mother-in-law and fell into a violent passion Full of emotion, he went home intending to tell his wife but to his infinite surprise, found that he was dumb Treatment however, soon restored him to a normal condition Contrast the mild expression of Humility with that of Pride Fear expresses itself in cries, tremblings, and palpitations, while Courage is bold, quick and firm

The heart, blood-vessels, and blood are materially affected by different emotions, as are also the lungs, ureters, bladder and urethra Dr Beaumont found in case of the man with a fistulous opening in the stomach, that anger caused its inner coat to become red, dry and irritable, always producing an attack of indigestion It is well known that the menses are arrested by emotions of a violent character, and that infants suckled at the breast of an angry mother, have been known to be made very ill Jaundice has been caused by the emotions of fear and pain, a fact which can be explained by assuming that the vaso-motor dilators have been stimulated, thus allowing, or rather forcing the bile into the blood, its pigment being by this channel disseminated throughout the tissues Pleasant emotion increases functional activity, promotes metabolism, and actually renews, improves, and invigorates the mental and physical being, though its scientific appreciation consists not only in its recognition, but in its substantial application to the improvement of mankind through educational methods and otherwise

3 Will is the capability of self-direction, self-determination, and self-action, and makes of man a free agent, subdues the force of violent impulse, and guides the intellectual powers It acts through the cerebral cortex, striated body, and pons In health and disease the will can control within certain limits the reflex action of the voluntary and semi voluntary muscles, while in the early stages of insanity there is often a violent conflict between the will and automatic cerebro-muscular action All familiar with physiology are aware that by inflating the lungs and by an effort of will restraining respiration, the action of the heart can be almost entirely stopped, producing, however, if too long continued, complete collapse Colonel Townsend once illustrated his power, through will, to simulate death Drs Cheyne and Baynard felt his pulse, and found it sink gradually until, finally, they were unable to detect the slightest evidence of life

The power of volition over the body cultivated by the fakirs is authenticated by English officers and medical men, Dr Carpenter giving in his physiology the case of a Yogi that by will suspended the organic functions, was buried for six weeks, disinterred and resuscitated John Hunter says "The state of the mind is capable of producing disease, another state of it may effect a cure," meaning by this to imply that one kind of emotion is capable of removing a disease produced by another kind of emotion Dr Tuke, therefore thinks it would be more correct to say "that as in health certain mental states induce disease, so in disease certain mental states may restore health" Such a statement as the above illustrates the importance of this subject not only to medical men, but to teachers, who will discern at a glance the beneficial effects of certain ideas, feelings, emotions and volitional impulses upon the minds and bodies of children as also the detrimental effects of certain others Practically, the true civilization of future centuries and the continued evolution of the human race seems placed in the hands of mothers and teachers

Most important is it that we should recognize that through a scientific and judicious observance of nature's laws, in education, in government, in social intercourse, there is attainable a physical, mental and moral perfection that has heretofore been esteemed a mere idealization of the enthusiastic devotee of ethics or religion That this is a fact is demonstrable through the correlative sciences of physiology and biology, which daily illustrate the dependence and interdependence of mind and body To the student of nature is proven hereby the absolute necessity of a comprehensive knowledge of these sciences on the part of teachers, through the careful and judicious stimulation of ideas and emotions they may arouse and develop only what is good in the nature of the child

A realization on the part of instructors of the benefit to be derived from moderate benign emotion, and the contrary effect of malevolent emotion, is bringing about radical changes in prevailing methods of education All true methods recognize as fundamentally necessary the cultivation of the nervous system through an assiduous observance of hygienic dietetic and phys iologic laws, associated with well regulated efforts toward self-knowledge, self-control and self perfection Froebel held essentially the same views, views based on the unity of nature with man, of man with God, of God with all, and the consequent psycho-physiologic building of the inner self Thus, through the enunciation and demonstration of universal truths, there is being rapidly evolved a new system of sociology and education based upon the grand unity of all, and showing as necessary to the evolution of man the knowledge of mental and physical laws With such observance will come an era of true manhood and womanhood, showing in lives lived after the pattern of the Master the divine and indwelling spirit of the Father

DISCUSSION

Dr J F PEAVY, Atmore, Ala —Personally, I desire to thank Dr Hunt for his very excellent paper I am myself, to some extent, a student of mental phenomena, and am especially interested in this very matter of the mutual relation and dependence of mental processes and physical states Much of the confusion into which we are liable to fall in the study of this subject, may be avoided by simplifying our conception of mind and body as related to each other We have been accustomed to regard them as distinct existences, capable of being separated from each other and of pursuing independent activities Until we rid ourselves of this vagary it is clearly impossible to reach any theory of mental and physical correlation, or any logical explanation of modifications produced in either mind or body by influences impressing the one through the other

Man is a unit an organic whole Certain of his higher physical activities we distinguish as mind The appetites the desires and inclinations, the likes and dislikes the hopes and expectations are generated in nutritional states of the organism Upon these are based the higher mental and volitional activities These affective states are at the same time the cause and the expression of the moving of the organism in the direction of ends in the environment which it deems good In the pursuit of these ends innumerable adjustments to conditions are effected in the central mechanism the brain Many of these adjustments are performed consciously and intelligently, while others are performed subconsciously and automatically Those adjustments which involve the element of conscious intelligence are on their subjective faces mental states, yet they are nevertheless expressions of brain action

Mental states are correlated with definite physical processes in the brain You can not call up the one without producing the other Furthermore, these physical processes being affections of the central organ of adjustment, have connections and relationships which make them centers of influence affecting more or less remotely the various organs and functions of the body Thus the mind, or as I prefer to call it, mental action, influences not only the automatic functions of the brain, but also other bodily functions relegated for the most part to lower centers and controlled only indirectly by the brain through an exercise of inhibitory influence over them Indeed, influences coming through the psychic life are constantly impressing themselves upon the physical organism and taking the shape of normal physiologic activities Only the curious abnormalities which now and then arise attract our attention and excite our wonder In our amazement at these illustrations of perverted action, we are in danger of overlooking the fundamental facts of mental and physical correlation in the human organism

Certainly there is no more inviting study than that of mental phenomena from the standpoint of the physiologist, nor are there any more important therapeutic questions than those which relate to the proper handling of deviations from the normal in this department of vital activity

Educators quite generally are now realizing the importance of a knowledge of psychology as part of the mental equipment of the up to date teacher Quite generally, too, is the fact being recognized that the psychology which has value rests upon a physiologic basis The question of the influence of mental impressions and mental exercise over physical development and activity seems scarcely to receive the attention at the hands of educators which its importance deserves The alternative question of the influence of physical training and development over mental health and efficiency is receiving, and quite justly too, considerable recognition in modern methods and theories of teaching Physical culture, drawing and other methods of developing manual dexterity have fully established their value They serve to develop the motor capacities of the central organ of adjustment They tend to make men of action prompt to meet the exigencies of life as they arise

Dr E Stuver, Rawlins, Wyo —Everyone appreciates the great influence exerted by the mind upon the body and the converse influence of the body on the development and integrity of the mind I shall not enter into any general discussion of this subject, but desire to call attention to one phase of the question which I regard as of very great importance in the application of educational principles The point which I desire to emphasize is that the child should not be regarded as a little man or woman, but rather as an epitome of the development of the race If we recognize the fact that its ontologic or individual mental development corresponds to the philogynetic or racial phases of development, through which the race has passed in reaching its present stage of evolution of the mind, we will at once appreciate the fact that, in order properly to direct the evolving mind of the child through its various ages of credulity, inquiry and faith, up to the fully developed age of reason, that the teacher should have, at least, a clear outline conception of the mental evolution of the race I desire to congratulate the author on his exceedingly interesting and valuable paper

Dr L Duncan Bulkley of New York said that the influence of the mind over the physical frame is an established fact of which it is often very interesting to observe illustrations

The ready control of the vascular system, as seen in blushing, often upon mental suggestion, or the paling of the countenance from fear, and the cold sweat occurring under mental emotion, are known to all I have seen a number of cases where localized sweating of the hands or feet occurred most readily upon mental influences When the mind was diverted the parts remained dry, but when attention was called to the part the perspiration oozed out and even ran off the part But mental influences can go farther, and even produce direct lesions of structures in various organs, and he mentioned an interesting case reported by Leloir, where fright caused the sudden and severe development of eczema

Mental influence can also act in an inhibitory manner and arrest secretions, and probably also check nutrition He mentioned a very interesting case of a perfectly healthy young lady where the shock of a proposed slight surgical operation completely arrested digestion, so that a simple breakfast was vomited unchanged fully seven hours after it was taken, the suggestion of the operation and visit to the surgeon occurring on rising from breakfast

The influence of the mind has undoubtedly much to do with recovery from disease, and Dr Bulkley thought that some of the benefit resulting in the practice of specialists was in the influence of the mind in the way of hope and expectation

SMALLPOX IN CUBA

THE EPIDEMIC IN THE HOLGUIN AND GIBARA DISTRICTS OF CUBA, INCLUDING A BRIEF REPORT OF THE SANITARY CONDITION OF THE TROOPS IN THE DEPARTMENT

BY R S WOODSON, M D , U S A
MEDICAL INSPECTOR DEPARTMENT OF SANTIAGO

The harbor of Gibara is a small, open one and well washed The town of 10,000 inhabitants, a walled city nicely laid off with cleanly streets, presents a pretty seaport, which, with the assistance of constant sea breeze and sanitation can be made a perfectly healthy spot for occupancy by troops

The town and vicinity were carefully inspected for a suitable location for camp grounds, and the most suitable site selected, i e , the open point of land to the seaward of the city occupied by a small Spanish fort—a level promonotory in close proximity to the only available water supply, consisting of a large, well-cared-for public cistern The camp was nicely laid out, the fort taken as a guard house and carefully disinfected, and an adjacent empty house designated as a hospital Inasmuch as smallpox was prevalent in the city the command was placed in rigid quarantine, and it is recommended that no more troops be sent to this district until the sanitary situation can be controlled

The mayor and health officers were next visited, and I was informed that for the past three years the city had been badly infected with smallpox and dysentery, that there had been over 1000 cases of the former with 250 deaths since Jan 1, 1898, and that there had been over 800 deaths from all causes during that period I took charge of the sanitary situation at the request of the military commander and instituted the following *reforms* and measures

1 The Red Cross supplies, which were abundant, and which had been withheld from distribution by the Red Cross agents, were seized by military force

2 An isolation hospital of 100 beds, fully equipped from Red Cross supplies, was established outside the city walls in the direction of the infected district

Fifteen male and female immune nurses were employed at twenty and fifteen dollars respectively, an immune guard of eight men under charge of Sergeant King (M D), Company G, Second U S V Infantry, were detailed as a permanent guard and acting hospital corps detachment Captain Massie (M D), Company G Second U S V Infantry, was placed in command In two days forty patients were isolated and under treatment The shed building, 300 feet long, was divided and subdivided for white and colored, and male and female Two efficient cooks were employed and a well-stocked commissary established from Red Cross supplies A detention hospital was then established in an adjacent building, and a large house on an adjacent hill was rented as a paying hospital for female patients of a better class All infected houses of present and past cases were marked with a red cross to be disinfected Just beyond the city wall is a settlement of 350 people in small thatched huts, badly infected and containing many cases, which will be isolated At the suggestion of the commanding general of this department, these huts will be used for isolating purposes for the entire infected district and afterward destroyed The Spanish hospital, well constructed and fairly well supplied, was seized and the goods confiscated for the use of the medical department The building is not used yet on account of infection, but is recommended as a general hospital for troops stationed on the north coast of Cuba It is believed that the city of Gibara will become a health resort when the epidemic of smallpox now in existence there shall have been controlled

Holguin, the principal city of the district, is similarly infected, and in much worse degree, there being in that town of 10,000 inhabitants, 800 cases of smallpox at the present time, and a correspondingly large number of cases of dysentery, typhoid fever and malaria cases All civil government has been abandoned in this city, and its sanitary condition can be judged from the fact that 12,000 Spanish soldiers occupying the city have not established privy sinks The situation in this district is grave and demands prompt and efficient action The absolute necessities are thorough isolation of patients and suspects, disinfection of infected foci, quarantine against infected adjacent districts, maritime quarantine, abundant disinfectants medical supplies, rations for Cuban poor, 1000 cots with sheets, pillows, blankets, etc vaccine lymph for vaccinating 10,000 inhabitants, an efficient corps of physicians as a vaccinating and disinfecting committee, and a sanitary corps of civilian employes for thoroughly policing the city

It is believed that with proper support, the situation in Gibara can be controlled in one month, in Holguin in two months and in the whole district in three months

On October 29 I proceeded on horseback to inspect the sanitary conditions of the various hamlets along the line of the Holguin and Gibara railroad between these two cities Parenthetically I will remark that there was an excellent dirt road and a beautiful open, fertile country

Bahia de Rio Blanco, a small hamlet, 30 thatched huts, 200 inhabitants, six miles from Gibara No smallpox, the disease having exhausted itself, all huts infected

Arroyo Blanco, eight miles from Gibara, 300 inhabitants No smallpox at present, 100 cases in past year, with many deaths, all huts infected

Cantimplora, five miles from Gibara, a town of 600 people No smallpox, the inhabitants having exercised some precautions against the disease

Tondinga, 500 inhabitants, ten miles from Gibara No smallpox in town at present No history of past epidemic obtainable

Auras, twelve miles from Gibara, a town of 1000, at present occupied by Spanish soldiers, contained many cases of smallpox of virulent type

Aguas Claras was next inspected as a probable location for troops, four miles from Holguin, at present occupied by Spanish soldiers Water-supply very deficient, there were many cases of smallpox, all huts infected, locality as a probable camp site abandoned

It is advised, first, that the remaining six companies of the Second U S Vol Infantry be temporarily withheld from entering infected districts, second, that the six companies now in Gibara be held in quarantine at that point and that they do not proceed as yet to Holguin

Having done everything in the premises with the means at hand, I next inspected Sagua de Tanamo The latter town is somewhat inaccessible, necessitating twelve miles of travel in a row-boat to the landing, Esteron, at head of Sagua de Tanamo Bay then ten miles on horseback to the city of Sagua At Esteron is located the commissary store house, under guard of three men It is a filthy little hamlet of 300 inhabitants, where malarial fever is rife All men who have been on duty at this place are invariably afflicted with malarial fever I would recommend that these stores be moved up to Sagua with the company on duty there, to avoid the necessity of the above exposure The road from Esteron to Sagua is in good condition Basan, a small hamlet of 250 inhabitants, half-way to Sagua, is a healthy little town, containing no smallpox nor malaria

Sagua de Tanamo, a town of 2500 inhabitants, situated on a high, well-drained hill, in the midst of a large, fertile valley, now under cultivation, giving the best evidence yet seen of marked regeneration from the effects of the war, is a comparatively healthy town The water-supply is taken from the Sagua River, a clear, bold stream, running through the valley The town is garrisoned by Company L, Third U S V Infantry, under command of Major M W Harris, of that regiment Acting Asst -Surgeon W H Reynolds, in charge of the medical department, a faithful, hard-working, practical man, has established a good hospital in a rented building, where men receive careful professional attention The general police of the camp is not good All sinks were in an abominable condition, old sinks were not filled up and new sinks were not sunk beneath the level of the ground, but left to drain down into the adjacent valley, much to the detriment of the neighboring population There were no kitchen sinks No records have been kept of this hospital The surgeon was instructed in military hygiene and hospital administration The ration was complained of, as being deficient in fresh beef, and of proper diet for the sick

At Sagua is located a 100 bed Spanish hospital, in fair state of preservation The present occupancy of it was advised against, until thorough disinfection had been put into effect

Baracoa was next visited—a town of 4000 inhabitants, garrisoned by three companies of the Third U S V Infantry under command of Lieut Col T S Wylly, who possesses all the requisites toward the making of an admirable soldier The sanitary work that Colonel Wylly has done at Baracoa deserves special mention He has moved his command from a well-selected camp-site into the Spanish hospital, situated on a high hill All floors have been removed and earth taken away to the extent of two feet and refilled with fresh gravel, and covered over with a half-inch layer of concrete Water closets and shower-baths have been established The water supply is taken from the Baracoa waterworks, from the *Macaguanigua* River, piped up into a reservoir and distributed throughout the post The hospital was in an excellent condition, records carefully kept, rations and cooking excellent, medical officers intelligent and energetic A complete chemic laboratory of expensive instruments and rare chemicals was found It is recommended that they be turned in to the U S general hospital, Santiago de Cuba, for the purpose of establishing a chemic laboratory at that institution

Guantanamo was inspected, November 1 The headquarters and six companies of the Third U S V Infantry were found encamped a short distance from the town of Guantanamo [illegible] latter a city of 10,000 [illegible] bitants [illegible] was well selected [illegible] side, [illegible] drained privy and kitchen sinks were carefully dug and well policed The sick report showed 25 per cent sick, principal affection being malarial fever The yellow fever outbreak has ceased to exist, no cases being found by the inspector The water supply, taken from the Guantanamo River, pumped into a reservoir, an iron tank, is there piped into a large iron cauldron and boiled General police at camp is excellent The hospital is carefully constructed and was found to be in excellent condition The records were carelessly and improperly kept

The following general impressions have been gathered from these and former inspections

1 The lack of a hospital corps detachment at most of the regiments

2 The inefficiency and ignorance of hospital stewards as regards their duties as such

3 The low grade of the average medical officer, both commissioned and contract, especially the latter

4 The fact that commanding officers, as a rule, are very much alive to the necessity of rigid sanitary precautions in this climate

Upon arrival I was ordered to return at once to Holguin and Gibara and to assume entire control of the sanitary administration of the district The below mentioned able corps of acting assistant surgeons were ordered to report to me for duty in connection with the work of eradicating the disease Myer Herman of New Orleans, Guel Dolz of Havana, W O Stone of Mississippi, Felipe Veranes, chief surgeon Cuban Army, Vicente Gomez of New York We now have the city of Gibara under control and are at work upon Holguin

---

SOCIETY PROCEEDINGS

Southern Surgical and Gynecological Association

Eleventh Annual Meeting, Dec 6–8, 1898

Dr Richard Douglas of Nashville, Tenn , presided over the meeting, which was held at the Gayoso Hotel, Memphis, Tenn

Prayer was offered by Bishop Gailor

Dr Alexander Erskine of Memphis delivered an "Address of Welcome" on behalf of the local profession, which was responded to by President Douglas, after which routine business was disposed of

D William E Parker of New Orleans, La , presented a paper entitled

GUNSHOT WOUNDS

He described the hospital conditions in Cuba and the wounds seen by him made by the modern bullet He spoke of some experiments made under the direction of Major L A La Garde, surgeon U S A , as to the relative penetrating powers of the Mauser, Krag Jorgensen and Springfield rifles With ammunition of the years 1896 and 1897 the Mauser, fired at a distance of three feet from the muzzle into seasoned yellow pine posts, would penetrate 34 + inches, with ammunition of 1895 it would penetrate 32 + inches, with ammunition of the past year, the Krag Jorgensen fired at the same distance, would penetrate 24 + inches, and the Springfield would penetrate but 5 inches, yet many lodged Mausers were found, and he was told by the Spanish chief surgeon that but six lodged Krag Jorgensens were found by them In speaking of wounds of special regions, he said that flesh wounds, as a rule, healed under one dressing In the few cases that did not, the sloughing was at the points of entrance and exit, and not along the whole track of the bullet Explosive effects were not seen by any of the surgeons He stated that he had hoped to present some statistics as to the wounds of the war, but they could not be had Wounds of the brain did well He had heard of at least five cases that were still alive and doing well But one case of wound of the spinal cord was operated upon and he was doing well This patient had paralysis of both legs and of the bladder and rectum Some spiculæ of bone had been removed from the cord At this time the patient has perfect use of the right leg and partial use of the left, and has perfect control of his bladder and rectum He said that while he had not in any way modified his opinion that laparotomy should be done for abdominal wounds in civil life, with the small modern bullet and lack of proper facilities this operation should not be attempted in the field, unless there should be symptoms of hemorrhage About 50 per cent of these cases recovered without operation Chest wounds did well and caused but little trouble In cases of wounded vessels, hemorhage did not seem greater than in cases wounded by other bullets When nerves were injured, nerve suture was not attempted on account of the rush of work, but he thought it should be attempted as soon as possible None of the hospitals had a sufficiently large number of surgeons or hospital corps men, but he spoke of the efficiency of those who were there

Dr F W McRae of Atlanta, Ga , followed with a paper on

PENETRATING WOUNDS OF THE ABDOMEN, WITH REPORTS OF CASES

At the outset, the essayist referred to a resolution passed unanimously by the Association at the Nashville meeting in 1896, to the effect that in all cases of penetrating wounds of the abdomen it is the duty of the surgeon to make an exploratory incision so as to definitely determine whether the viscera have been injured or not Since then a few able surgeons have dissented from this opinion The propriety of surgical interference in cases of penetrating gunshot wounds of the abdomen will depend on one of three things 1, the general condition of the patient, 2, dangerous internal hemorhage, 3, wounds of the stomach or intestines large enough to permit extravasation He quoted from contributions to this subject by Senn, Nunez, Winslow Budinger, Vaughan Woolsey, Robson, Chauvel, Michaux, Klemm, and others, and said, from the conflict of opinion and advice given by these and various other surgeons, one is at a loss to know just how to proceed in many cases His own convictions, based on sixteen cases, which he narrated, are positive While he has the greatest admiration and respect for the surgical opinions of Senn, he should be recreant to his convictions were he to accept the proposition of non interference laid down by Senn in his recent contributions to the subject In most of the cases which have come under his observation where grave lesions of the abdominal viscera have existed, the symptoms of internal injury were practically *nil*, and the positive signs of grave damage almost entirely absent In conclusion, he reiterated his firm conviction that every case of penetrating wound of the abdomen, where there is reasonable doubt as to injury of the abdominal viscera, should be subjected to at least an exploratory operation This enables the surgeon to either absolutely be sure that no injury has been done to the viscera or to repair, as far as possible, such injuries when they exist The mortality following a simple exploratory operation per se is so small as not to weigh against the much greater mortality that necessarily follows the expectant plan of treatment In the cases he had seen, the general and local signs have been so misleading and enigmatic that prior to the operation a conclusion on his part as to internal conditions would have been entirely guess work

Dr Horace H Grant of Louisville, Ky , contributed a paper on

PRACTICAL MANAGEMENT OF BULLET WOUNDS OF THE ABDOMINAL VISCERA

Observation and experience with operators coming frequently in contact with this lesion have determined that penetrating wounds of the abdomen demand laparotomy at the earliest possible moment after diagnosis and thorough inspection of the entire region endangered It is established that not only is the mortality in untreated wounds of the abdomen almost 100 per cent where the intestines are perforated, and very high in wounds of the solid viscera, but it becomes less promising every advancing hour, until by the second day peritonitis sets in and destroys the hopefulness of the prospect Within the past two years the speaker has operated upon four cases In each case the patient was seen early, in no instance later than four hours In three, resection of the intestine was necessary Three of these patients recovered, the fourth died from septic peritonitis due to the escape of a large quantity of fecal matter before operation Autopsy disclosed a perfect intestine

These three papers were discussed together

Dr W L Robinson of Danville, Va , said he had seen a good many cases of gunshot wounds of the abdomen, and nearly all of them died, either with or without operation Early operative interference might save some of them

Dr G S Brown of Birmingham said he knew of several cases of gunshot wounds of the abdomen that occurred in and around Birmingham, that recovered without operation Personally, he had operated on five cases, one of which recovered In this case there was no perforation of the intestine Undoubtedly, diarrhea and starvation, mentioned by Dr Parker in his paper, have something to do with the favorable results The intestines are most liable to be perforated when full

Dr Willis F Westmoreland of Atlanta said the results of gunshot wounds of the abdomen on the battle field should not be compared with those met with in civil life It is not a question of operating, so far as fatal results are concerned, but the manner in which the operation is done

Dr W E B Davis of Birmingham thought that Dr Parker's paper was not an argument against operative procedures for abdominal wounds Surgeons on the battle field do not have the same facilities for operating on penetrating wounds of the abdomen that they do in civil practice, and which are necessary for the proper care of cases If a man sustains an injury to the intestine, if his abdomen is not opened, death may be expected In twenty or more cases operated on by him and his brother, all of the cases died that were seen twenty four hours after the injury This is not an argument against operative interference, but against late operation Statistics impress surgeons with the importance of early operation

Dr George A Baxter of Chattanooga believes it is not necessary in many instances to open the abdomen in cases of gunshot wounds, and cited a number of cases that recovered without operative interference

Dr John T Wilson of Sherman, Texas, advocated early operation in cases where the surgeon is convinced that perforation has taken place The character, technique and rapidity of the operation are very important, In operating, the intestines should be exposed as little as possible

Dr W L Rodman of Louisville said that while he has pursued the practice of operating on penetrating gunshot wounds of the abdomen for the last ten years, after hearing the paper of Dr Parker and reading the recent contributions of Senn and others, he wondered whether he as well as other surgeons may not have gone too far in operating in so many of these cases, at the same time, he does not wish to be understood as advising a masterly inactivity where the environments for operative interference are favorable

Dr Westmoreland said that, given a case of perforation of the intestine, particularly where there is extravasation of contents, instead of being masterly inactivity, it is criminal inactivity for a surgeon not to operate

Dr Parker, in closing the discussion on his part, said that he had tried to make a clear distinction between the plan of treatment of gunshot wounds of the abdomen met with on the battle field and those encountered in civil life He is strongly opposed to laparotomy on the battle field on account of the conditions that exist In civil life, however, the thing to do in cases of gunshot wounds of the abdomen, is to get in and out of the belly as soon as possible consistent with good work

Dr McRae believes that a large proportion of operations undertaken for gunshot wounds of the abdomen late will terminate fatally

Dr Grant stated that practically all cases operated on after twenty four hours perish It is impossible to diagnosticate perforation of the intestines with any degree of certainty If a patient is seen within eight or ten hours after the receipt of a gunshot wound of the abdomen under favorable surroundings, whether the bullet has penetrated the intestine or not, the skillful surgeon will not hesitate to make at least an exploratory operation, because it would not hurt the patient, but would probably save his life

Dr W D Haggard, Jr , of Nashville, Tenn , read a paper entitled

A PLEA FOR THE MORE CORRECT APPLICATION OF THE EMMET METHODS IN PLASTIC SURGERY

The pioneer work of Sims was feelingly referred to It was a unique circumstance in the annals of surgery that the instruments which made the feat of Emmet possible, and the fundamental principles of his success have remained unchanged It is not so much the truth of homage to unprecedented genius as the truth of the great principles enunciated, and the perfection of his devices The extension of the method of Sims in fistula to the injuries of the adjacent soft parts was made by Emmet The evolution and perfection of the operation on the cervix was traced Dr Haggard described the mechanics of the production of rectocele associated with the common transverse tear of the posterior vaginal wall involving the pelvic fascia, which is the essential pathology of this injury The rational correction of this complex condition then would not be not to sew the labia together, which is the popular procedure in one class of operations, nor to denude an arbitrary area of fanciful shape on the rectocele and bring the edges of the raw patch together, after the fashion of another class It would rather be, in the language of Emmet, 'catch up the retracted pelvic fascia at such a point and in such a manner as to take in the slack, as it were of the fascia throughout the pelvis, By this procedure the displaced posterior vaginal wall is certainly lifted up and drawn forward in contact with the vesico vaginal septum As the steps of the operation advance the displaced anus is lifted upward and forward, the everted tissues at the vaginal outlet gradually rolled in and the separated levator ani muscles brought together He accentuated the essential features in detail The classic operation for the complex tear of the perineum is more amenable to pictorial description and he believes it is more generally understood He minutely depicted it In every branch of art there is a troop of imitators who follow so closely the hall marks of the original that the specimens can scarcely be distinguished from the genuine So closely are mannerisms copied in literature, art, sculpture and the drama, that the imitators create a distinctive school This accuracy of duplication is rendered possible by the faithful and scrutinizing study of the original pattern The unlimited opportunities for the study of models in the arts are obviously impracticable in plastic surgery We can not all have the privilege of seeing the peerless Emmet, although a distinguished fellow of this Association says that everyone who aspires to do this work ought to Dr Haggard regrets that many of Dr Emmet's pupils do not or can not copy his methods, and he does not hesitate to say that those who do conscientiously strive to imitate him, fall very short in their efforts, but they have at least the satisfaction of having a correct conception of the highest ideals in surgery

Dr Howard A Kelly of Baltimore, Md , presented a paper entitled

THE TREATMENT OF COMPLETE RUPTURE OF THE PERINEUM BY DISSECTING OUT THE SPHINCTER MUSCLE AND ITS DIRECT UNION BY BURIED SUTURES

He said that the results of the best methods of the treatment of complete tears of the perineum are not entirely satisfactory in a large percentage of cases The control over liquid motions and flatus is as a rule not secured immediately and it is usually necessary to encourage the patient by telling her that she *"will have to learn to control the muscle in the course of time"* Such a control, more or less perfect, is gained in the course of several months This defect in our present procedures is due to a faulty approximation of the sphincter ends which lie buried in a pit, and are therefore difficult to bring into accurate firm apposition by sutures embracing a considerable quantity of tissue surrounding the sphincter ends Dr Kelly proposes, therefore, the deliberate dissection and freeing of the sphincter ends, drawing them out about one and a half centimeters from the tissues, cutting off the scarred ends, and affecting a direct union of the freshened ends by two or three catgut sutures He was led to do this operation by his experience in a case which had been operated upon six times with a result, which, judged by superficial appearances, was perfect, and yet the patient had no control over her bowel functions He made a semi lunar incision around the anterior periphery of the anus and found the right sphincter end buried in scar tissue in the median line, while that of the left side was ectopic and attached out under the ischial tuberosity The sphincter ends were united directly by buried catgut sutures, and the skin wound closed and union took place *per primam* In addition to these buried catgut sutures a splinting suture of silkworm gut is passed through the middle of the sphincter near the edges of the wound and on up through the septum splinting the ends together and taking the tension off the catgut He has since taken the hint given by this case and adopted a similar procedure in six cases of complete tear of the perineum due to confinement Two additional cases were operated upon by Dr W W Russell and one by Dr Ramsay In each instance there was a surprising difference between the new and older methods noted at once in the earliest stages of the convalescence, and the patient was immediately conscious of perfect control of her functions The bowels should never be locked up Great care must be taken not to leave any dead spaces in closing the remainder of the wound in the usual way, in order to avoid all risk of infecting the buried sutures He only recommends this operation to those who possess considerable skill in doing plastic operations and in securing a snug accurate adaptation of the parts

In the discussion Drs George H Noble of Atlanta and J Wesley Bovee of Washington, D C , added their testimony to the usefulness of the method described by Dr Kelly, but certain features of the technique of which they modified

Dr Lewis S McMurtry of Louisville, Ky , read a paper on

THE TREATMENT OF CANCER OF THE UTERUS

He said that the treatment of uterine cancer had not shared proportionately in the great advance of modern pelvic surgery While other diseases which were long the opprobria of medical and surgical science and art had been made amenable to surgical treatment, the treatment of cancer of the uterus was practically where it was twenty years ago Cancer of the uterus was a very common disease Women were more subject to cancer than men and in quite one third of all cases of cancer in women, the uterus was the seat of the disease The disease occurred as a rule between the ages of 30 and 50, attaining its maximum prevalence at the menopause It was rare in unmarried and sterile women, and was most common with the mothers of large families Race and environment have much to do with its development It had been the experience of the essayist that the disease is proportionately rare in the negro race From a careful statistic study, Billings declares that cancer is slowly but steadily on the increase, and that its greatest prevalence is in nations which have attained the highest state of civilization In 1893 London alone lost 3412 of her population from this disease, a percentage of 3 73 of the total death rate for the year Cancer of the corpus uteri is rare in comparison with the common exhibition of the disease in the cervix, but not so uncommon as was formerly understood Cancer of the cervix originates 1, in the squamous epithelium of the vaginal portion of the cervix, 2, in the cylindric epithelium of the cervical mucosa, and 3, in the epithelial lining of the cervical glands Cancer of the body of the uterus originates in the epithelial structures of the endometrium The treatment of uterine cancer consists in a variety of operative procedures, leading up to the most recent operation of combined abdominal and vaginal extirpation The names of Verneuil, Carl Braun, Schroeder, Pawlik, Koeberle and Byrne are associated with high amputation of the cervix with ecraseur, cautery and knife High amputation, as practiced by Schroeder, attained the greatest favor and maintained its position over hysterectomy until 1886 Prior to this time, hysterectomy had such a high mortality (15 per cent) that high amputation deserved preference In 1886 the operation of total vaginal extirpation was revived by Martin, Leopold and Olshausen Since that time this operation has been very generally adopted, and is today the accepted treatment for the radical cure of cancer limited to the uterus itself With the modern perfected technique the mortality of this operation is reduced to about 4 per cent

The Doctor referred to the statistics of vaginal hysterectomy as given by Pozzi in the third edition of his treatise on gynecology, an analysis of which does not strengthen or inspire confidence in the ultimate results of this procedure He said that claims are being made for the permanent cure of uterine cancer by hysterectomy which could not be realized Of all the cases of uterine cancer which apply for treatment, only a small proportion are within the scope of a clean extirpation by vaginal hysterectomy The large number of cases in which the disease recurs at the site of operation within a few weeks demonstrates that the operation is in most cases simply a resection, leaving behind sufficient disease for continued activity His personal experience with this operation has been discouraging Vaginal hysterectomy for cancer has never been a favored operation with him During the past year he has done the operation in five cases, which were selected as most favorable for permanent cure In all the disease was discovered early, and, so far as macroscopic evidence could show, it was limited to the uterus itself The organ was normally mobile Of these five cases treated by vaginal hysterectomy, two had recurrence, one in the bladder, the other in the vaginal fornix at the cicatrix, within five months after operation These were selected cases in which the disease was early recognized, the patients were under 50 years of age and well nourished The operation was done with a view of going far beyond the region of probable infiltration, and removing the appendages with the uterus Based on his own previous experience, and that of other operators, it is doubtful if one of the three remaining cases will be living at the end of three years from the time of operation

The histologic structure of the uterus and adjacent structures is exceptionally favorable for disseminating this disease The rich lymphatic distribution here is an active means of infection, but the studies of Cullen show that the activity of lymphatic invasion has been exaggerated, and that the common mode of infection is along continuous structures Extension is most rapid around the vaginal vault, forward and downward under the bladder, aad in the base of the broad ligaments The common invasion of the vagina by implantation about the cancerous cervix has suggested to Werder the method he has practiced of total excision of the uterus and vagina by suprapubic operation

In conclusion, Dr McMurtry considered in detail the choice of operation for the several classes of cases of carcinoma of the uterus which are presented to the surgeon for treatment For advanced cases, where the entire field of evident invasion can not be removed, he advocated thorough curettage, scraping away necrosed tissue, emptying obstructed pus accumulations, washing out debris and establishing drainage and antisepsis Such local treatment will reduce septic intoxication, prolong life, and promote comfort All operations for radical cure should be limited to cases in which the disease is recognized sufficiently early for thorough removal of invaded structures This will be best accomplished in the majority of cases by abdominal section and removal of uterus from above, including liberal portions of adjacent structures, especially the upper portion of the vagina, where implantation from the cervix is so often found While liberal excision of suspicious areas of tissue should be done, it will rarely be found necessary to remove the subperitoneal lymphatic glands, since their enlargement has been often found inflammatory in character instead of cancerous The field of vaginal hysterectomy should be limited to the few cases of early diagnosis in which operation can be done before deep extension of the disease Efforts for prophylaxis should be most diligent and should be of universal application All ulcerative and cicatricial lacerations of the cervix should be repaired as a prophylactic measure

Dr William L Rodman of Louisville asked the members to give their experience relative to the frequency of cancer in the black and white races He was rather surprised to hear of the infrequency of the disease in the negro woman According to the last census statistics of Billings, cancer of the uterus is more common at all ages in the black than in the white race This is also the experience of Matas, who has examined the records at the Charity Hospital in New Orleans An examination of all deaths recorded by the Health Department of Louisville for the past thirty years corroborated the same view

Dr Ernest S Lewis of New Orleans stated that while he had not observed a very marked difference in the relative immunity of negro women to cancer of the uterus, still if his experience is not at fault, he thinks, owing to their uncleanliness, their mode of living, and to the more frequent accidents to which they are subject during labor, they are particularly prone to cancer of the uterus With regard to the results of all operations for cancer of the uterus, he endorsed everything Dr McMurtry had said He could only recall one case of vaginal hysterectomy for cancer that lived for eight years, after which the disease returned, and the patient finally died The disease is so liable to return that he considers any operation as palliative, and he believes that would be the result of the abdominal operation advocated by Dr McMurtry, particularly in advanced cases, and if cases are met with in the incipiency of the disease, in his opinion as much could be accomplished by the vaginal as by the abdominal operation

Dr Virgil Hardon of Atlanta said during his seven years' connection with the Grady Hospital, he had reason to believe that cancer of the uterus was more frequent in negro women than in white women He has been led by his experience in the treatment of uterine cancer to the same conclusion as that reached by the essayist, except he had been led to go further He has operated for cancer of the womb by vaginal extirpation, by the abdominal method, and by the combined method, and he has never yet operated upon a case where recurrence did not take place sooner or later, and for this reason he has lost all confidence in operative measures as a means of effecting a permanent cure However, he has no doubt on theoretical grounds, that if cases are seen sufficiently early, a permanent cure might be effected by surgical interference

Dr Howard A Kelly of Baltimore remarked that he was astounded at the trend the discussion had taken, because he had seen dozens of cases of cancer of the uterus that had remained well for a number of years after having undergone surgical intervention, removing the uterus either by vagina or by the abdomen He finds carcinoma of the uterus as frequently in negroes as in white women

Dr J Wesley Bovee of Washington, D C , said that his experience in the radical treatment of cancer of the uterus has been more satisfactory than what he had been hearing today He knows of a good many cases upon which he has operated that have gone on for three years or more without a recurrence of the disease He has done three operations after the manner described by Werder in the *American Journal of Obstetrics*, last winter, and he is much pleased In each case he adopted the abdominal rather than the vaginal route, believing a more radical operation could be performed by this method He has great hopes for the future treatment of cancer of the uterus by complete abdominal hysterectomy, undertaken early

Dr William L Robinson of Danville said that when the parts have become infected beyond the uterus, no dissection, however extensive, would ever remove the cause When the disease has extended beyond the uterus, he believes it is beyond the power of any surgeon to thoroughly remove it Therefore, unless an operation could be done very early, he would not advise the removal of the uterus

Dr W E B Davis was profoundly impressed with the position taken by Dr Lewis as to the ultimate outcome of cases of cancer of the uterus, believing his position is correct There is no man in America who has had a larger experience in the treatment of cancer of the uterus than Dr Lewis of New Orleans, and the profession were familiar with his great skill as a surgeon, hence his experience regarding uterine cancer was certainly valuable

Dr McMurtry, in closing the discussion, said he could not endorse the view that Dr Kelly takes with reference to the ultimate results of the operative treatment of cancer of the uterus He knows that Kelly's work in this direction has been extensive, and that his reports are sincere and reliable, but there are a great many surgeons, working in the same line, who have done thorough, faithful, skilful work in the radical treatment of uterine cancer, who doubt the future confirmation of Dr Kelly's views

Dr John T Wilson of Sherman, Texas, read a paper on

FRACTURES INVOLVING THE ELBOW JOINT

He said Fractures involving the elbow joint are of great interest and always cause more or less anxiety because of their liability to ankylosis, partial or complete to deformity, or to some interference with the perfect function of the joint as a result Fractures without the capsular ligament are not so grave, are under better control, give more satisfactory results, and cause less apprehension Fractures within the ligaments are always troublesome, give rise to more inflammation, demand greater care in their reduction, in the dressing, and in the after treatment Ankylosis in various degrees is generally looked for when union has taken place, it is extremely difficult in many cases to avoid this result, but with care, patience and perseverance on the part of the surgeon and patient, this complication can be remedied wholly or in part in nearly all cases It is necessary to remember that the muscular attachments to the region around the joint are very great It is difficult to conceive of a fracture here where the fragments do not involve a muscular attachment, and are more or less displaced by it A knowledge of these attachments is sufficient to indicate the difficulty of confining the broken bones in perfect apposition In fractures of this joint there is usually considerable inflammation ensuing, the cartilage of the articular surfaces being wounded and the investing ligaments lacerated The amount of callus thrown out is considerable, it hinders motion, and is generally slow of absorption

To get the best practical results in these fractures it is of supreme importance to keep the parts at absolute rest To do this, the joint must be put up in a suitable fixation dressing and patient kept in a quiescent state, in order to do this it is necessary to confine patient to bed for a week or more, and a fixation dressing is applied in the beginning of the treatment Eminent surgeons differ in regard to the position of the forearm The different fractures and the different degrees of fracture require different positions of the forearm, require different positions in pronation, supination and the angles Either extreme strikes him as being irrational He is guided by that position which favors best the coaptation of the fragments and the relaxation of the muscles, giving the least deformity, and the flexed position in some degree has been the one usually employed After an aseptic scrubbing of the joint, arm and forearm, under an anesthetic the diagnosis is made, if possible, and the dressings applied After a nice application of the spiral reversed roller, not too tight, a firm pad of sterilized gauze is placed in front of the joint opposite the broken fragments, thick enough for a firm support, and not as thick as to interfere with the functions of the splint The anterior splint is then put in place, one with a ratched hinge much like that of Dr Agnew, which can be placed at any angle desired and extending from near the wrist to above the insertion of the deltoid A pasteboard trough is then moulded to the posterior surface of the limb extending from the axilla to the ends of the fingers and confined by a roller If no contraindication this dressing is not disturbed for three or four days, or longer, if deemed advisable it is then carefully removed, the joint examined and if the inflammation has subsided the permanent dressing is applied

The correct position is maintained by the anterior splint and a carefully moulded plaster of paris trough is fitted posteriorly, this must be adjusted nicely in order to support the fragments, keeping them in place posteriorly and laterally This should also extend from the axilla and support the hand, should not be heavy and cumbersome, but firm enough to thoroughly fix the joint and arm This can be done by having some strips of heavy gauze or cheese cloth measured by the sound arm and carefully cut to the proper size, the plaster is thoroughly rubbed in these and they are then applied, the arm being well protected, layer by layer, a solution of plaster rubbed in between each layer until of the thickness desired This dressing can be controlled at will, and if nicely applied is not so cumbersome as it would seem If it becomes desirable to change the position or angle, the plaster trough can be taken off by simply removing the roller, the position changed and a new trough applied He prefers to have the anterior splint of wood broad enough to cover the joint, and yet not extending quite to the ends of the epicondyles, the joint fitting closely down to the bend of the elbow, the ratched notches changing not more than the eighth of an inch at each movement If properly made, this splint is light enough and yet firm enough for all practical purposes, and much of its usefulness depends upon its fitting well, and so with the plaster trough If extension and counter extension are necessary, these can be had by extending the plaster trough under the axilla and the anterior splint will make sufficient counter pressure by means of the roller This gives a firm, fixed dressing, keeping the parts in place and at rest, so necessary in all inflammatory conditions of the joints The patient is seen frequently, the joint examined at any time when there seems to be an indication for it, this should never be done, however, if there is no special indication for it after the permanent dressing has been applied and the surgeon satisfied that the fragments are in place If kept in this position and joint at complete rest, danger of ankylosis is not great

After three or four weeks, not earlier unless there is special indication for it, dressings can be renewed, the joint examined with care and, if any stiffness, passive motion gently instituted under an anesthetic, if necessary If only fibrous bands exist, they can be broken up Violence should not be used Gentle motion, frequently repeated and persevered in, will often accomplish more than sudden forcible separation with shock attending it Rubbing and systematic massage at this stage is of great value, and if stiffness is not readily overcome, persistence in the gentle efforts continued, after five or six weeks patient is instructed to gently exercise the joint twice daily with Indian clubs and dumb bells, neither of which should be too heavy He is advised to use the hand and arm constantly, and in time, in the great majority of cases, will be rewarded with success In some cases improvement may take many months or two or three years before the function is restored If there are several fragments of bone and some so small they can not be kept in apposition, their removal would save time and trouble and give a more favorable chance for a better joint If ankylosis has supervened upon a fracture and many months of patient effort at restoring the function of the joint proved futile, an operation is justified If a fragment is causing the trouble, it can be removed A resection will often give a good useful joint

Dr J Wesley Bovee of Washington, D C, read a paper entitled

THE USE AND ABUSE OF NORMAL SALT SOLUTION

The term "normal salt solution" has been used interchangeably with artificial serum Various compositions and strengths of the constituent elements of the blood have been used with the name—normal salt solution According to Kirke's "Hand Book of Physiology," salt exists in the blood plasma in the proportion of 5 546 parts per 1000 and 6 per cent is a good practical formula Other ingredients, i e, egg albumin have been added to the salt which really make an artificial serum instead of normal salt solution Of the five different routes through which it is introduced the intra arterial suggested by Dawbarn, is considered unsafe in all conditions and should not be practiced The subcutaneous is the most useful for general use In emergency work the intravenous method will often be needed in severe hemorrhage and the rectal enema of solution will be found of great advantage in nearly all cases where no bowel lesion is to be combated In abdominal surgery the peritoneal cavity will be the place selected for its introduction, and even in vaginal opening of the peritoneal cavity as in hysterectomy from this way the author has thrown considerable q[illegible]tities i[illegible] the peri[illegible] the hips being elevated [illegible] d the pe[illegible] closed directly af[illegible] nous [illegible] rapid, may be rendered slower than the subcutaneous by difficulty of finding a vein and successfully introducing the canula. The physiologic action of normal salt solution is as a powerful stimulant to the cardiac ganglia and the nerve centers. The skin, kidney and intestinal functions are stimulated markedly and other organs are likewise affected. Osmosis is markedly promoted by it and as a result of increased arterial tension the blood supply to the heart muscle is much increased. It has a hemostatic effect when supplied locally to raw surfaces, lessening oozing by stimulating and contracting the smaller vessels. According to Hayem and others, it augments the number of red blood corpuscles. It is eliminated by the skin, changing the chemic reaction of the perspiration and heavily loading it with salt. The kidneys also carry away an enormous amount of it when large quantities of it have been introduced into the tissues. The lungs remove it freely, it having been noticed in crystals on the lips after its free use. Autopsies after its use under the skin have shown a considerable quantity of it in the intestines, demonstrating it is thrown off by this route.

The essayist then spoke of its use in general medicine. In surgery the principal indications for its use are shock, hemorrhage and sepsis. In shock it should be employed early, on the table during operations, or even before the operation has been undertaken in bad cases, or after operation in milder ones. Severe hemorrhage is to be treated in the same manner, though only after the flow of blood has been checked. If the hemorrhage be severe, the intravenous route may be employed, it being about the only indication for this method. In the author's abdominal work he almost invariably leaves a considerable quantity of salt solution in the peritoneal cavity. Its salutary effect is produced by its action on the abdominal viscera with which it comes in close contact. To prevent adhesions in the pelvis, one or two liters suffice. It hastens absorption of stray or concealed blood clots, septic foci, or escaped fluids by carrying them well up into the abdominal cavity in cases of pelvic surgery. In hemorrhage it is probably best to infuse small quantities and often rather than one large quantity. Judging from the reports of experimenters, the use of salt solution is not a harmless procedure. It is contraindicated in such conditions of the blood as hemophilia, dyscrasias, deficient fibrin, etc. It would seem not unreasonable that such a strong stimulant coupled with its dilation of the blood vessels, when used in large quantities, and especially when thrown directly into them, would be very harmful in such conditions of the circulatory apparatus, as myocarditis, pericardial effusion, atheroma, arteriosclerosis, cardiac degeneration, bad valvular lesions, thrombosis, and recent cerebral apoplexies. Chronic diseases of the lungs, kidneys or liver, especially if malignant, are apt to be aggravated by it. Active hemorrhage in any location is aggravated by it. The presence of toxins in the blood has been found to retard the elimination of normal salt solution, and for that reason small quantities at a time only should be employed.

It is necessary to avoid certain accidents and mistakes in [illegible]ng normal salt solution. We must know the solution is sterile when it enters the tissues of the body, except by the rectum, in which case it is of no moment. Avoid air bubbles entering into blood vessels or cellular tissue. The fluid must be of sufficiently high temperature when it reaches the body. Chills occur from a cold solution and are dangerous to very weak patients. The vessel containing the solution as well as the tube and needle conducting it must be aseptic and thoroughly pervious; the tube should have a glass window that the rapidity of the current and the presence of any foreign body may be noticed. When the solution is to be introduced through the skin, either into cellular tissue or vein, the local surface should be cleaned as much as the limited time will permit. Probably not more than a half liter should be injected into the tissue through one puncture, as localized necrosis and aseptic inflammation have resulted from over distention of the tissue spaces. Ordinarily not more than one ounce per minute should be injected into tissue or vein. Pulmonary edema, dyspnea, headache, vertigo, mental excitement, delirium, hallucinations and severe pain in the left side occur from over distention of veins from too large infusion.

In the discussion, Drs. Parker, Johnson, Noble, Farham, Cartledge, Tiffany, Kelly, McMurtry, Baxter, McRae, and Brown spoke favorably of the use of normal salt solution.

Dr. Joseph Tabor Johnson of Washington, D. C., presented a paper on

THE CONSERVATIVE TREATMENT OF THE DISEASED OVARY

The difference between the radical and conservative treatment of the diseased ovary is somewhat difficult to define, inasmuch as the most radical treatment under some circumstances is really the most conservative, while in other cases, to conserve the best interests of some particular diseased ovary requires the most radical surgery.

In the early part of the present decade, quite a conservative wavelet swept over the country, and considerable harm was done to pelvic and abdominal surgery in the mild and gentle name of conservatism. Incomplete conservative operations were done, some of which had to be completed later on by radical operations. Some of the men who claimed to be the most conservative, and attracted the timid doctors and frightened patients, were actually removing more ovaries and tubes than many of their so called radical friends. Much credit has been claimed for saving a part or the whole of one ovary and tube, when only a simple catarrhal salpingitis existed, by an operator posing before the profession and community as a conservative, when the surgeon designated a dangerous radical, to be avoided, would actually not have operated at all, and would probably have cured his patients by other means. In some instances genuine, successful conservatism was practiced with lasting beneficial results, but not always from the highest and purest motives. Again, it has been charged that actual radicalism has successfully masqueraded under the name and guise of conservatism to the injury of the trusting patient and the discredit of good surgery. So much has been learned by accumulating experience, as the domain of the gynecologist has undergone so much expansion that real conservatism is gradually gaining ground over real radicalism to such an extent that he who presents ovaries and tubes or a fibroid uterus to a modern up to date medical society, has to state very good reasons why he sacrificed these important organs in their entirety to escape criticism and possibly censure. Sacrificial surgery is gradually giving way to more conservative and humane methods. He believes there is a maxim in general surgery in favor of saving every inch of the human body possible, and another that it requires a higher order of skill to save a mutilated or diseased member than it does to cut it off or to cut it out. With his present experience in abdominal surgery, he is free to confess that he can now save ovaries and tubes which he formerly thought it necessary to totally remove. The increasing skill of our abdominal surgeons and their accumulating experience in actual conservative work, go to show that we are approaching nearer to that true conservatism which is the offspring of increased skill and experience. In abdominal surgery it requires a higher order of skill and a greater experience to save an organ or part of an organ than it does to remove it. It is important to save a portion of one ovary, when the other has been removed on account of a tumor, an abscess, or for any other cause. The disagreeable symptoms accompanying the artificial and premature change of life are often stormy and protracted; in some rare instances threatening, if not resulting in actual insanity. These women are happily prevented from falling into such a condition by saving one or a portion of one ovary; menstruation is then not interrupted, and the sexual and other feelings of the patient undergo none of those sudden and peculiar revulsions which unfortunately sometimes follow the total removal of both ovaries and tubes. In conclusion, Dr. Johnson said that if growing experiences in the abdominal cavity and accumulation of evidence continue in favor of more conservative and less sacrificial operative work, he feels sure that the deep debt of gratitude now felt toward abdominal surgeons by suffering women will be tenfold increased and intensified.

Dr. Richard Douglas of Nashville, Tenn., delivered the presidential address. He made a departure from the usual or stereotyped address and selected for his subject

ACUTE GENERAL PERITONITIS

Before considering his subject proper, he spoke of the growth of the association and the excellence of its scientific work, saying that the association owes its existence and high standing to the indefatigable efforts of Dr. W. E. B. Davis, the permanent secretary.

A bacteriologic classification of peritonitis is beset with many difficulties, and while the speaker is free to admit that for all practical purposes peritonitis is of bacterial origin, yet there occurs a respectable percentage of cases in which the most rigid examination fails to disclose the presence of micro organisms. Hartmann and Moreau recently reported such a case in detail. Of 110 cases bacteriologically classified by Flexner, there were twelve cases which he was obliged to consign to the idiopathic group. It is true that in all of these patients there existed conditions predisposing to peritonitis, such as cardiac, renal or hepatic disease. In the intensely septic mycotic form of peritonitis their absence may be accounted for by the fulminant type of the disease, death occurring from intoxication before the colonies of bacteria are well established.

Any effort to individualize the effect of a specific bacterium, to connect its presence with a definite pathologic phenomenon and characteristic symptomatology is as yet futile Mikulicz avers that all forms of peritonitis run the same clinical course regardless of the bacteria that cause it There is a law laid down by Maloz to the effect that if the peritonitis is of intestinal origin, the colon bacillus will show it, if it is of uterine origin, that is, connected with abortions or labor, we will find the streptococcus It is asserted that the colon bacillus constitutes nine tenths of the bacteria of the digestive tract, the colon is its natural habitat, but its behavior upon gaining entrance to the peritoneal cavity depends upon many circumstances, and this bacillus has many morphologic conditions, many forms and stages The constancy of its presence in peritonitis, since the demonstrations of Welch and others of its capacity of transmigration through the bowel, has led many to attach to it great significance as an etiologic factor, but its association with other forms of micro organisms renders the first proposition of Maloz null and void If we interpret Maloz' law correctly, the absence of streptococci would eliminate the possibility of peritonitis being of puerperal origin In rebuttal of this idea, Dr Douglas quoted from Winckel, who says, "Kroenig examined all parts of the uterus of a woman dead from infection and found not only the superficial thrombi at the placental site thickly filled with bacteria, but also the serous lining of the peritoneum" This case shows that a woman may have a peritonitis following abortion without streptococci, and it further shows that the colon bacillus without an intestinal lesion may produce a fatal peritonitis No doubt too much importance has been ascribed to the colon bacillus, and it is interesting to note that Tavel, who was among the first to emphasize the pathogenic powers of the bacillus coli communis, thinks now the bacillus coli should be considered merely a collective name of many varieties of bacteria

No better argument against bacteriologic classification can be adduced than the words of Simon Flexner, who says "In order that pathogenic bacteria introduced directly into the peritoneal cavity may cause a peritonitis, general or circumscribed, evanescent or fatal, the normal conditions of the peritoneum must in some way be modified" It is clear, then, that in the human being, as in experimental animals, some other condition than the mere presence of pathogenic micro organisms in the abdominal cavity is necessary in order that peritonitis may be produced Bacteria alone and unaided by physical conditions are comparatively innocuous

Restricting consideration entirely to acute general peritonitis, it occurs from traumatic or consecutive causes Under the head of traumatic peritonitis is embraced all infective inflammations arising from wounds of the peritoneum, whether accidental or operative, penetrating or non penetrating Consecutive, secondary or symptomatic peritonitis may be subdivided into peritonitis by continuity and perforation peritonitis

Under the head of traumatic peritonitis all forms of peritonitis must be embraced that are due primarily to a trauma The destruction of tissue, the retention of blood clots and natural secretions, prepares a suitable soil for microbic invasion, and this essential infecting element may be introduced from without, as through penetrating gunshot, stab or operative wounds, under which circumstances it is usually a poly infection, the streptococcus predominating There are also contusions of the abdomen without an external wound which so injure and lower the resistance of the tissue as to favor the migration of the intestinal micro organisms and their infection of the general cavity

The supervention of acute general peritonitis, as secondary to pre existing disease processes, embraces in its etiology infective inflammations not only of all intraperitoneal viscera, but all organs or tissues contiguous thereto, and it does not appear to him to be too broad, if there be included within its scope those peritonitides of hematogen or metastatic origin, for it is well established that the specific germs of diphtheria, scarlet fever pneumonia and erysipelas have produced acute general peritonitis

Peritonitis by continuity is the uninterrupted extension of the inflammation from an infected area to the peritoneum and is accomplished by the invading army of micro organisms through the lymphatics, blood channels, or by direct penetration of tissues The reactionary inflammation which determines the localization or diffusion depends upon the virulence of the bacteria, the resistance of the tissues, and, what is too frequently overlooked, the individual resistance of the patient Puerperal peritonitis of streptococcus origin conspicuously illustrates inflammation by continuity

Perforation peritonitis is the next subdivision of secondary peritonitis The sudden opening of a focus of suppuration and the discharge of its contents into the peritoneal cavity, whether it be from hepatic abscess, a pus tube or mesenteric gland, is a true illustration of perforation peritonitis yet t inflammation and systemic infection following is not neces rily so conspicuous The duration of the primary disease, t virulence of the micro organisms, the preparedness of the pe toneum by fortifications of adhesions, the general condition the patient are all circumstances which may modify and c cumscribe the peritonitis It is more common for perforati peritonitis to occur as a result of ulceration of the wall of so of the hollow viscera as in peptic ulcer, typhoid and dysente intestinal ulceration, duodenal and appendicular ulceration

The conclusions that may be drawn from an etiologic stu of peritonitis may be thus summarized Traumatic perito tis, especially the post operative variety, is essentially a gr condition, not only because there is immediate or primary in ulation of the peritoneum, but the conditions are all favora for germ culture and dissemination Peritonitis by continu may become general and prove rapidly fatal, but this is not t rule except in puerperal cases Contrary to the expres opinion of more than one writer, there is nothing pecul about the peritoneum, or the cecum, or appendix, or the tr pelvis, which accounts for the more frequent localization inflammation in these regions than in other areas of the ab men The method of invasion, the activity of the process a resistance of patient alone determine the local or general ty of peritonitis Visceral perforation, whether traumatic pathologic, is an ideal condition for germ culture and the el oration of toxins Their rapid absorption and general dif sion throughout the peritoneum sufficiently explain the gr state into which the patient is precipitated It may be assert that the clinical course and pathologic expression depe largely upon the nature of the exciting cause the character the pre existing disease or injury and the mode of invasion

Without attempting to formulate any definite patholo classification of general peritonitis, and to adapt each to special cause, he prefers to direct his efforts to simplifying a dispelling the confusion that exists He accepts with slig reservation, the now almost universally conceded idea th acute general peritonitis is and must be septic, that is, of b terial origin But he maintains that surgeons do not und stand each other, nor have they all a clear conception of wh is meant by septic peritonitis It has been a race for between the practical surgeon and bacteriologist as to w should claim the honor of naming the pathologic phenome in this great serous bursa He maintains that the surgeon alone competent to define, classify and prognosticate the p tean types of this disease That men are honest, painstaki and accurate, goes without saying, yet how can surgeo reconcile the report of McCosh's last series of eight cases general septic peritonitis and six operative recoveries with t experience of Senn "of many cases of diffuse septic periton without a single successful result"? The answer certainly not in the superior skill or special technique of the operat but it is to be found in an analytic study of McCosh's cas six of them were purulent peritonitis and two serous perit itis, not the class of cases referred to by Senn at all The defines diffuse septic peritonitis to be "that form of periton in which there is little or no exudate, severe symptom intoxication and terminating rapidly fatally" Some fe years ago, Dr Douglas reported eight cases of general pe tonitis subjected to operation with four recoveries and fo deaths He dealt with them all as cases of general sep peritonitis from a misconception of the term Two of th only properly belonged to this class and they terminated fatal The others were cases of general purulent peritonitis with t deaths and four recoveries He is very well pleased with percentage of recoveries, but disgusted with his classificati He did not discriminate between diffuse septic peritonitis t patient dying in twelve hours with profound toxemia and c peritoneum after perforation of the appendix and one of p foration with enormous purulent effusion, but mild sympto of sepsis This error of his is the common one with the p fession, and it is the outcome of an attempt to classify p tonitis by the character of exudate

The etiologic classification of peritonitis places it as sub iary to the primary lesion which produces it and its practi import is its local origin A painstaking investigation into t clinical history will usually determine the origin or structu primarily involved The symptoms and physical signs, if t case is seen sufficiently early will still further aid in incrim nating the part under suspicion This valuable diagnos evidence does not conform to any stereotyped expression t symptomatology of peritonitis is as varied as its causes the presence of any striking symptom or group of sympto physicians can not arrive at a decision in a doubtful case, b from the whole picture they must form conclusions

(To be continued)

Chicago Medical Society

Regular Meeting, Nov 30, 1898

Dr Arthur D Bevan officiated as chairman of the meeting Dr F Kreissl read a paper entitled

WHY IS GONORRHEA STILL A MUCH-DREADED DISEASE?

Speaking of the cause of failure in successfully dealing with gonorrhea, the author pointed out superficial diagnosis, incorrect conception of the gonorrheal process, improper selection of the remedies, and the almost universal tendency to begin with an effective treatment too late and to discontinue it too soon, and last, but not least, the lack of individualizing cases He stated that hard and soft chancroidal ulcers, and the presence of mucous patches in the urethra during the secondary stage of syphilis, furnished a secretion which is mistaken for gonorrhea and is treated as such, until the appearance of local symptoms on the skin and other parts of the body direct attention to the real character of the discharge The same applies to herpetic éruptions and tuberculosis of the urethra, leading to tubercular ulcerations, which may, in rare instances, be partially symptomatic of a more or less generalized urogenital tuberculosis or, in rarer cases, it may start primarily in the urethra Simultaneous infection with gonorrhea and syphilis is not a very rare occurrence, and the same is true of a urethra affected with secondary syphilis, in which the gonococcus may become implanted

The treatment of gonorrhea, in order to be effective, should be commenced as early as possible, to prevent the gonococcus from penetrating the tissues, and should be kept up until the physician is satisfied that all gonococci are annihilated Silver salts still rank highest among the antigonorrheics, and their value in destroying the vitality of the gonococcus is being more and more appreciated For the past fourteen months he has used protargol, a silver salt, which is highly recommended by Neisser, and which favorably compares with argonin in its prompt effect and total lack of irritation of the tissues It has a strong penetrating power, and is therefore also applicable in the more chronic cases But in treating a case with the silver salts the physician should not forget that more or less reaction follows each application, which manifests itself as a secretion lasting for from four hours to several days, according to the concentration of the solutions used

A point of importance is that the silver salts in a certain concentration do not check the catarrh, and they ought, therefore, not to be expected to dry up the canal after having annihilated the gonococci Astringents must be used to do this, which accomplish the desired result within a very short time When this does not take place, when even a scanty secretion appears at the meatus, or filaments in the urine, the physician must look out for complications The most common complications are strictures, or their forerunners—glandulitis or periglandulitis—or the disease may have invaded the posterior urethra, the seminal vesicles and Cowper's glands By stripping the parts and making a microscopic examination of stained specimens, valuable information is gained as to the nature of the secretion, and any doubt is removed if the case is one of uretrorrhea, prostatorrhea or gonorrhea The physician rarely has occasion to see posterior urethritis in those cases of acute gonorrhea which are treated with the silver salts from the start, provided the patient observes instructions in regard to diet and habits As to the Valentine and Janet irrigations and the Oberlander-Kollman treatment with dilatation and flushing of the canal, either following each other or simultaneously, he remarked that reports as to their efficiency in cases of acute gonorrhea are contradictory He would not recommend either They might perhaps, by simply washing out, do good in a very mild case at a time when comparatively few gonococci appear on the surface of the urethra, but he believes they do much harm by causing traumatism in an acutely inflamed canal In chronic cases, where the process is confined to a limited number of follicles, the combined treatment of cauterizing by the urethroscope or dilating and irrigating by experienced hands will be found gratifying In closing, the author quoted a remark which is attributed to Ricord, namely, that "gonorrhea is a disease which starts as a slight burning on urination, but of which only the Lord knows when and how it will end"

Dr Thos J Watkins followed with a paper on "Gonorrhea in the Adult Female"

Dr I A Abt contributed a paper on

GONORRHEA IN CHILDREN

He said that gonorrheal infection of children manifests itself primarily as a vulvo vaginitis, a urethritis of the male child, a purulent ophthalmia, stomatitis, or rhinitis of the new born He discussed genito urinary gonorrhea and complications in children So frequently has the gonococcus been found in cases of vulvo vaginitis, that no doubt can be felt that gonorrheal infection plays an important rôle in this disease Cohen-Brach examined twenty six children suffering from vulvo vaginitis, and in every case but one gonococci were found W Fisher examined the secretion in fifty four cases, in fifty of which he found gonococci The disease occurs in children from one to 12 years of age, though it is most frequent in children under 6 years of age As to the constitutional condition of the little girls, weakly or rachitic children are not particularly susceptible, on the contrary, the children as a rule are well developed and well nourished As to the clinical course and symptomatology, on the inner surfaces of the thigh and on the perineum one usually observes an eczematous condition of the skin covered with a dried greenish yellow pus The labia majora adhere to one another If they be separated, it is noticed that the mucous membrane of the vestibule is red and swollen, as is also the hymen, and a quantity of pus is to be seen, pressure upon the perineum will frequently cause pus to exude from the vagina In the majority of cases the urethra is involved It is not unusual to find the ducts of the Bartholinian glands involved, and a small quantity of pus can sometimes be pressed out of these ducts Fisher reports a Bartholinian abscess In many cases the inguinal glands are enlarged, particularly in those cases where eczema or excoriation exists As a rule, the temperature is normal, though slight elevations during the first few days of the illness have been recorded As a general thing, the subjective symptoms are trifling or absent The intertrigo may cause itching, or there may be pain upon urination or vesical tenesmus The disease may last for weeks or months The urethritis may persist after the vulvo vaginitis has terminated Exacerbations and relapses are not uncommon The endometrium is said never to be involved

In children, as in the adult female, the tubes or ovaries and peritoneum may be involved Gonorrheal pus in the tubes has been found at autopsy in five cases of girls from 7 to 9 years of age The genitalia of little girls may be the point of entrance for the organisms which cause peritonitis The bladder is seldom involved in little girls, a temporary vesical tenesmus, or in rare cases a temporary vesical catarrh, may occur

Epidemics of vulvo vaginitis have been frequently described, they occur particularly in hospitals and institutions, among the children of the poor, though none are exempt Skutch describes what is probably the largest epidemic which has yet been reported in the city of Posen During the month of August, 1890, 236 cases were reported, and probably many more occurred that never came to notice These cases all developed in the course of eight to fourteen days in little girls from 6 to 14 years of age—school children In a number of the children it was noticed that the disease occurred after they had visited on one or more occasions a free public bath The common use of towels, soap, and the bath water may have carried the contagion from one child to the other In the majority of cases gonococci were demonstrated Purulent ophthalmia developed in a few, not a stated number of cases The vulva and urethra are most often attacked primarily, the vagina, if involved, becomes so secondarily, the gonorrheal virus may be conveyed through sponges, towels, bed linen, by manipulations of the parts with unclean fingers, fever thermometers, or the contagion may, in rare cases, be conveyed by criminal assaults on little girls

In a general way, it may be said that the prognosis in little girls is more favorable than in adults In a majority of cases the disease terminates in three months, though there are cases recorded where a chronic urethritis resisted all forms of treatment

The symptoms of gonorrheal urethritis in male children present much the same picture as is seen in the adult Koplik has seen children in arms suffering from this condition Bokai observed 109 cases of urethritis in children, many of whom, he points out, suffered for weeks or months from a urethritis Most of these were probably gonorrheal Twenty seven occurred during the first year, 36 from the first to the third year, 32 from the third to the seventh year, and 14 from the seventh to the fourteenth year Holmes has not infrequently seen cases of gonorrhea in male children Rona says that in his fifteen cases the process was in every case a urethritis totalis, the disease becoming chronic, and usually lasting for months Moncorvo has seen many cases of gonorrhea in small boys Von Arsdale has frequently observed gonorrheal urethritis in young boys One case was in a child ten months old, two cases were in children from one to four years Dr Abt has notes of two cases

In private practice, as well as in hospital and dispensary practice, it is in most cases difficult to accurately elicit the mode of infection, though it can not be doubted that most cases are due to actual sexual contact, a lesser number to manipulations of the parts with infected hands, linens, and the like The recorded cases show that the majority of children acquire the disease from servants, or from little girls suffering from vulvo vaginitis

Strictures occur the same as in adults Kammerer reports a case in a child two and a half years old, who, six months after an attack of gonorrhea, developed a stricture which did not permit the first catheter to pass A suprapubic puncture was made to empty the bladder Two strictures were found in the anterior urethra, and one impermeable in the membranous portion The deep stricture was treated by performing an external urethrotomy The anterior strictures were relieved by dilatation Cystitis has been observed by Viger and Moncorvo Rona encountered the complication in two cases In one case it continued, and persistent hemorrhage occurred It has been supposed that epididymitis and orchitis do not occur as complications, owing, perhaps, to the functional inactivity of the organs True, the condition has been seldom observed, though Rona reports a child fifteen months old suffering from a urethritis totalis In about twelve days after the beginning of the disease it was observed that the scrotum was swollen, and both testicles were painful After fourteen months the patient was dismissed as cured, though a little hard nodule, the size of a pea, remained in the left epididymis Lymphangitis of the penis, balanitis and balano posthitis occur commonly Rectal gonorrhea has not been observed in any of the cases previously reported

The diagnosis presents but few difficulties, and differs in no important detail from that of adults The specific must be differentiated from the non specific variety This differentiation depends on the presence or absence of the gonococci, and also upon the duration of the disease and the occurrence of complications The gonococcus must be found in considerable number, and arranged in groups within the leucocytes It must decolorize readily by Gram's method of staining The best culture medium is made from the blood or serous fluid of man The treatment of vulvo vaginitis, which the author considered at length, consists of cleanliness, antiseptics and rest of the parts

Dr D N **Eisendrath** followed with a contribution on

PATHOLOGY OF GONORRHEA AND TREATMENT OF SOME SURGICAL COMPLICATIONS

He said The history of the gonococcus dates from 1879, when Neisser first found it in gonorrheal pus It is a coccus occurring in pairs, generally in the interior of leucocytes, with a clear interspace between, with adjacent sides flattened (biscuit shaped) Its size varies from 8 to 1 in length and from 6 to 8 in width In the tissues and pus its size is uniform, in cultures it varies It is neither a strepto nor a staphylococcus, but has a grouping of its own which is quite characteristic It is non motile and divides longitudinally It is best stained with an alkaline methyl blue or gentian violet solution It is decolorized by Gram's method This serves to distinguish it from all other cocci except the so called pseudo gonococci, and the meningococcus of Weichselbaum Lustgarten and Mannaberg described the former (pseudo gonococci) as occurring in healthy and gonorrheal cases It is a lemon yellow diplococcus, decolorized by Gram's method and occurring in about 5 per cent If all the well known points, as to the morphology, staining reactions, enclosure and arrangement within cells be observed, a mistake in diagnosis is possible in only a small number of cases The meningococcus, in its morphology, intracellular position, appearance in culture media, decolorizing with the Gram stain, more completely resembles the gonococcus, but in this case as with the pseudo gonococci, the culture test is the only reliable one in doubtful cases, namely, the gonococcus will only grow on media in which some albumin taken from the human body is present and will not grow upon ordinary media, whereas the other cocci spoken of will grow well on all media Bumm was the first to obtain successful results in the cultivation of the gonococcus by using human blood serum On account of the difficulty of obtaining this serum Wertheim suggested a far more practicable medium in the shape of human blood serum agar Some human serum seems necessary, but ovarian, pleuritic, ascitic and hydrocele fluid can be substituted for the blood serum Many other media have been suggested, but none have proven satisfactory If none of the above fluids can be obtained, a convenient method is that of Pfeiffer, namely, to allow a number of drops of blood from a previously sterilized finger to flow over [illegible] surface of a tube of nutrient agar Surface [illegible] grayish translucent, finely granular, with [illegible] ders The gonococcus is exclusively a[illegible] tive to temperature

One of the most interesting contributions to our knowledge of the gonococcus since its discovery by Neisser and its cultivation by Bumm and Wertheim, has been made by de Christman published last year in the *Annales de l Institut Pasteur* He isolated the toxin of the gonococcus from pure cultures growing in rabbit serum bouillon containing glucose which he found better than the Wertheim medium The injection of the toxin obtained from filtered cultures produces the same results as the cultures themselves This toxin placed upon the human urethra, caused, after one hour had elapsed, a drop of thick yellow pus, which contained a large number of mono and polynuclear leucocytes and epithelial cells, but no gonococci The toxin acts first upon the epithelial cells, and the leucocytic emigration is secondary, because in the first drops taken the former greatly exceeded the latter in number This artificial urethritis was accompanied by pain and the other typic symptoms and disappeared gradually It resembles the true gonorrhea in the fact that the secretion continues long after the inflammatory symptoms have disappeared In cases in which there is a doubt as to the nature of the process, the injection of such a toxin would clear it up In animals the injection of the toxin causes rapid loss of weight and high fever Locally it causes abscesses, with thick sterile pus no tendency to spread, and which heal by resorption There are no lesions to be found postmortem Heat has no effect upon the toxin, it can be precipitated by alcohol and extracted with glycerin The toxin is formed in the bodies of the gonococci themselves Injected into the anterior chamber of a rabbit's eye it produces great irritation and early pus formation Injected into the pleural cavity, it produces rise of pulse and respiration and all the evidences of a pleuritis, with the formation of thick yellow pus Animals can be immunized by intravenous injections of the toxin in thirty days, so that injections of pure cultures, or the toxin, have no effect This may have a future in the treatment of some internal complications of gonorrhea

In man the favorite ground for the gonococcus is upon mucous membranes, preferably those lined by cylindric or transitional epithelium, not excluding squamous as Bumm claimed It readily penetrates between the cells into the connective tissue and between muscle fibers It grows most luxuriantly, however, upon the surface, and it is probably through the destructive action of its toxin, as de Christman has shown, upon epithelial cells and leucocytes that pus is formed The localization of the gonococcus in the joints and tendon sheaths may take place almost from the very beginning of the disease, and not necessarily from the time the posterior urethra is invaded, as was formerly thought, depending more upon the invasion of the deeper layers of the tissues of the urethra and bladder They are greatly favored by trauma, excesses, or irritating therapeutic measures It is a frequent complication of the gonorrhea of pregnancy or of the puerperium, of ophthalmia neonatorum, or of the vulvo vaginitis of children No joint can be said to be free from it It does not generally involve, or wander from one joint to another, as acute articular rheumatism does, nor does it seem to be as polyarticular In men the knees are most frequently affected, in women the wrists and finger joints The disease in the joints may be acute, sub acute or chronic Of the former there are three varieties the acute gonorrheal hydrops, in which there is a serous or seropurulent effusion, a second variety in which, in addition to the effusion, there is extensive thickening of the capsule and involvement of the para articular tissues In this variety the exudate may at times be purulent, cause perforation of the capsule and peri articular abscesses A third variety resembles the ordinary pyemic arthritis, with destruction of cartilage and capsule The second variety is the most deplorable, because in spite of all treatment it leads frequently to ankylosis In general, the tendency of gonorrheal arthritis is through the early adhesions and capsular thickening as well as particular infiltration, to lead to stiffness subluxation and contractures Examination of gonorrheal joints shows as the principal changes, loss of endothelium and under this formation of granulation tissue, it is the change to connective tissue of the latter which leads to the above results

Gonorrheal tendo vaginitis and bursitis are not at all rare affections The former occurs most frequently in the tendon sheaths of the extensors in the hand and of the tibial muscles in the lower extremity the latter in the bursa [illegible] the insertion of the tendo Achillis and the [illegible] The treatment of acute hyd[illegible] [illegible] be rest and co[illegible] the app[illegible] [illegible] remedy [illegible] The inte[illegible] [illegible] avail In [illegible] articular in[illegible] shou[illegible] ing out with some antiseptic solution, e g , bichlorid of mercury or lactate of silver with injection of iodoform emulsion, followed by massage, active and passive movements, will give the best results If these latter means are not employed, fairly early, even in cases in which the joint is not washed out, ankylosis is almost certain to result When the exudate is purulent, with high temperature and threatened destruction of the joint, arthrotomy is frequently necessary The treatment of gonorrheal tendo vaginitis is comparatively simple It is rarely necessary to open the tendon sheaths in order to evacuate the pus, but even here the tendency to stiffness of the fingers and toes must not be forgotten, and early massage and movements should be insisted upon

Dr Bertram W Sippy contributed a paper on

GONORRHEA FROM THE STANDPOINT OF INTERNAL MEDICINE

He said The following etiologic factors are to be considered in the production of the metastatic inflammations of gonorrhea, 1, the presence in the part of the gonococcus, 2, the action of gonotoxins produced either at the site of the inflammation, or possibly conveyed by the blood to the part from the seat of primary infection, 3, secondary infection with various micro organisms, 4, mixed infection Arthritis occurs as a metastatic complication of gonorrhea in from 2 5 to 3 per cent of all cases The clinical picture of the disease varies greatly The most common form begins with pain in several joints In a short time one or more of the painful articulations, the knee joint, usually, begins to swell rapidly Pain may be intense or moderate Soon fluctuation is present During the first few days, a temperature of 102 of 103 degrees, and other constitutional symptoms attend the local process In a few days, the acute symptoms subside, but the effusion remains The subacute stage continues a few weeks, until the fluid is gradually absorbed Real suppuration rarely takes place, and when it does, undoubtedly mixed infection with pus microbes is nearly always present

In other cases, phlegmonous inflammation of the synovial membrane, ligaments, and peri articular tissue may be accompanied by an exudate largely fibrinous in character Stiffness of the joint is a marked feature from the beginning Deformity may develop rapidly, and it is in this form that ankylosis is most likely to take place Another form is characterized by peri articular inflammation only At times, the disease manifests itself as an acute polyarticular affection, resembling acute articular rheumatism Chronic hydrops, involving usually one joint, may result from repeated exacerbations of the ordinary form of gonorrheal arthritis, or the process may be subacute or chronic from the beginning Above all, that which characterizes gonorrheal arthritis is its appearance as a complication of gonorrhea, the fluctuation of the joint affection with that of the primary gonorrheal disease and the tendency to ankylosis Endocarditis complicates gonorrheal processes much more rarely than arthritis The left heart is more frequently affected There is nothing characteristic in the symptomatology, aside from the etiology

The prognosis is always doubtful The most favorable cases are those in which the temperature is low or normal, and the physical signs of the disease not pronounced Cases which were clinically ulcerative endocarditis, have recovered with chronic heart lesions

Diseases of the brain, spinal cord, meninges, cranial and peripheral nerves have been reported on good authority, in which gonorrhea was regarded as the etiologic factor Anatomic disease, however, is rare Relatively, the peripheral nerves are most frequently affected The condition is either a neuralgia or neuritis Thirty five or forty cases of spinal cord lesions, including several autopsies, have been reported A myelo meningitis, involving the lumbar cord, is the most common lesion The disease may be acute, but is usually chronic Functional disease of the nervous system is much more common The neuroses may be general or local There is nothing specific in the symptomatology of nervous disease complicating gonorrhea A relatively large number of cases of myelomeningitis have recovered Bacteriologic research has been attempted a few times Thus far the gonococcus has not been found

---

Chicago Gynecological Society

Regular Meeting, Nov 19, 1898

Dr Nicholas Senn, the president of the society, occupied the chair

The society discussed the subject of

CYSTITIS IN THE FEMALE

Dr Senn opened the discussion by dealing with the etiology and classification He said that the recent great advancements in the prevention and more successful treatment of infective surgical diseases are the direct outcome of the vast increase of our knowledge concerning their etiology Surgical bacteriology paved the way for rational surgery It is now very generally conceded that inflammation of any tissue or organ is invariably caused by microbic invasion, and that all other causes only act by determining or favoring infection If this be true, it is apparent that the successful treatment of cystitis presupposes an accurate knowledge of the nature of the microbic origin of the inflammation Suppurative cystitis and tubercular cystitis are so entirely different in the nature of their bacteriologic origin that the method of treatment successful in one would almost with certainty aggravate the other Inflammation of the bladder is often the result of a mixed infection, and it is of paramount importance in all such cases to gain accurate information by bacteriologic examination of the urine concerning the part which each kind of microbe plays in the causation and continuance of the inflammatory lesion before an intelligent and successful course of treatment can be devised and carried into effect It is of special importance in the successful management of cystitis and conditions mimicking cystitis clinically to make a sharp distinction between the cases in which the symptoms are caused by inflammation and those in which they are due to non inflammatory pathologic conditions It will be seen from what has been said that the modern etiologic study of cystitis is based largely on a carefully conducted bacteriologic examination of the urine The exercise of patience and perseverance is often required, as in many cases the urine has to be examined repeatedly before the necessary information is gained

Predisposing causes do one of two things or both 1 They effect tissue changes which determine the localization of microbes from the bladder, adjacent organs or the general circulation 2 They furnish a nutrient medium for the growth and multiplication of microbes The most frequent of all predisposing causes of cystitis is retention of urine from any cause Abnormally increased muscular action of the bladder as occurs in cases of central or peripheral irritation of the nerves which preside over the muscular structure of this organ, or in consequence of the action of local irritants, as a stone, foreign bodies, tumors, chemic or toxic substances, is a recognized predisposing cause of inflammation of the bladder Abnormal conditions affecting the quality or quantity of urine frequently precede inflammation of the bladder, and must be regarded in the light of predisposing causes Tumors of the bladder, malignant and benign, frequently precede and complicate cystitis A calculus or a foreign body becomes a predisposing cause of cystitis by the production of local lesions and vascular changes favorable to the localization and growth of bacteria, which are the essential cause of the inflammation Compression of the bladder from within and from without is a potent predisposing cause of cystitis Pressure from either direction diminishes the vascularity and nutrition of the bladder wall, and in this way increases the susceptibility of the tissues to invasion by disease producing micro organisms Venous stasis is a local predisposing cause of cystitis To trauma has been assigned for centuries a direct influence in the causation of cystitis

The essential or exciting cause of cystitis is invariably the presence and pathogenic action of microbes in the tissues of the bladder, the seat of inflammation In the study of etiology of cystitis it is important to consider in detail the routes of infection Under the head of exciting causes Dr Senn dealt with infection through the urethra, infection by the urine, infection from adjacent organs and infection from the blood

Coming to the classification of cystitis, he said that a rational classification is essential in discussing the etiology, symptomatology diagnosis, prognosis and treatment of this disease He gave both Guyon's and Rovsing's classifications of cystitis In the anatomic classification pericystitis, paracystitis, interstitial cystitis and endocystitis were enumerated and dwelt upon at length Under the head of pathologic classification he gave catarrhal cystitis, suppurative cystitis, ulcerative cystitis, exudative cystitis, exfoliative cystitis and dwelt upon each of these forms at considerable length In the clinical classification he gave acute cystitis, and chronic cystitis, and in the bacteriologic classification 1, bacillus coli commune infection, 2, saprophytic (mixed) infection, 3, staphylococcus infection, 4, streptococcus infection, 5, streptococcus erysipelatous infection 6 typhoid bacillus infection, 7, diplo bacillus infection, 8 Gonococcus infection, and 9 bacillus of tuberculosis infection The bacteriologic classification of cystitis is the most modern and certainly the most important It has a direct bearing on the etiology of the disease, and suggests to the surgeon the most rational course to pursue in its treatment In long standing and obscure cases of inflammation of the bladder, examination is not complete without examination of the urine with sufficient care and thoroughness upon which to base a correct bacteriologic classification Surgeons must learn to appreciate the value and importance of this part of the examination before they can expect material advances in the treatment of cystitis If the surgeon has not the necessary knowledge or equipment to make these examinations satisfactorily, he should assign this part of his task to a competent bacteriologist

Dr **John A Wesener** followed with a paper on the

CHEMIC AND MICROSCOPIC EXAMINATION OF THE URINE, WITH SPECIAL REFERENCE TO THE DIAGNOSIS OF CYSTITIS

He said that very little had been done on the microscopic and chemic examination of the urine in cases of cystitis It is true, we are told to differentiate cystitis from pyelitis by the character of the epithelium present In the case of females, in whom cystitis is suspected, the urine should be obtained by the catheter If this rule be followed, it will avoid the possibilities of contamination from the vagina Cystitic urine may be either acid or alkaline If the infection is by the bacillus coli, it is acid, if in addition it becomes infected with the bacillus vulgaris, it becomes alkaline Of 200 cystitic urines examined, 68 per cent were acid and 21 per cent alkaline Of the alkaline urines found, decomposition took place in some after voiding The reaction of the urine no doubt depends on the character of the bacteria present The works of Rotoski, Krogins and Müller justify the above assertion Muller found cystitic urine acid in 75 per cent of all cases examined by him, while Melchoir showed from an analysis of sixty two cases, that ammoniac decomposition is only a subordinate circumstance in cystitis, depending solely on the microbe present The most important of these is proteus vulgaris

To differentiate cystitis from pyelitis, Dr Wesener proceeds as follows, In cystitis there is always more pus than in pyelitis, and for this reason kidney epithelium is found more readily in pyelitis because of the smaller amount of pus present After centrifuging the urine, it should be tested for the amount of albumin it contains In cystitis it is found absent or present, depending on the amount of pus, whereas, in pyelitis, a considerable quantity of albumin is always found The explanation for this difference is due to the fact that the kidney is a much more vascular organ than the bladder, therefore exudation takes place more easily Red blood cells are found more frequently in pyelitis than in cystitis In pyelitis casts are often found Clinically, we might succeed in distinguishing these two conditions by washing out the bladder with sterilized water immediately after urination, examine the urine collected, and also the washings for pus If the water contains a considerable amount of pus, it is probably cystitis

Dr **William T Belfield** then discussed

INSTRUMENTAL EXAMINATION OF THE BLADDER IN CASES OF CYSTITIS

He said that twenty years ago cystitis was a clinical entity characterized by the presence of three symptoms—retention, frequent and painful urination, and pus in the urine To day it clinically had receded from the rank of an entity to that of a symptom The symptoms considered characteristic of inflammation of the bladder today, such as frequent and painful urination and pus in the urine, are now known to be caused, not merely by inflammation of the bladder as a whole, but also by infections, injuries to certain limited parts of the bladder, etc Now, other parts of the urinary organs are involved, such as stricture of the urethra, and morbid conditions of the pelvis or the kidney The reason why the cystitis has thus receded from the first and second ranks from that of an entity to that of a symptom has been especially set forth by Dr Senn, viz, that cystitis is always to be considered in the nature of a bacterial infection, and that the bladder is not susceptible to bacterial infection when it is in a normal condition The reason why so much advance has been made in the matter of cystitis is because of the improvement in means for the mechanical examination of the bladder Twenty years ago the sound was the only instrument in use It revealed the existence of stricture, of foreign bodies in the bladder encrusted with urinary salts, and with the aid of the finger, prostatic hypertrophy in the male It is true, the finger was sometimes used for the investigation of the female bladder but it was not generally recognized nor a universally employed measure Dr Belfield then referred to the value of the cystoscope as affording means for inspecting the entire wall of the bladder There are instances on record in which stones have been entirely cut off from the general bladder cavity under diverticula, but they are rare There are plenty of others which present a free surface to the bladder cavity, but in such localities as to be entirely beyond the reach of the sound He related a case in which the ordinary symptoms of chronic cystitis were present, and likewise symptoms strongly indicative of stone in the bladder The man had had the matter of castration strongly urged upon him, but fortunately refused An examination without an anesthetic failed to discover stone, the cystsocope at once revealed a stone near the protruding part of the prostate, just above the urethral orifice A couple of weeks later the man was operated upon When the patient was chloroformed, sounds were introduced with curvature likely to lead to the locality where the stone was known to be located Dr Belfield was unable, however, to touch the stone A suprapublic incision was therefore made and the stone removed Cases of this kind show the extreme value of the cystoscope

Dr **M L Harris** followed with a brief paper entitled

INSTRUMENTAL EXAMINATION OF THE BLADDER IN THE DIAGNOSIS OF CYSTITIS IN THE FEMALE

His remarks were confined entirely to instrumentation of the bladder as bearing upon diagnosis, and were still further limited to a consideration of his own instrument—the urine segregator—which posesses the following advantages

1 It collects the urine, so that it may be analyzed

2 It does this without entering the ureters, thus obviating the danger of infecting the kidneys

3 It not only enables the physician to differentiate bladder from kidney disease but to determine the exact condition of each kidney, which is so essential in all diseases of the urinary tract

4 Its use is so simple that extraordinary skill is not required

Dr **James H Etheridge** read a paper entitled

REMEDIAL TREATMENT OF CYSTITIS IN THE FEMALE

He said that the treatment of cystitis is conveniently subdivided into constitutional and local The constitutional treatment consists chiefly of the use of remedies to increase the functions of the alimentary canal, of the skin, of the use of agents whose action so changes the character of the urine that it shall be unirritating to the diseased organs, and of medicines that can relieve pain and vesical tenesmus Diet also falls under this heading A soluble condition of the bowels should be maintained daily by salines, taken on the empty stomach, before breakfast It is of prime importance to bear in mind that a glass of hot water taken immediately after the saline will energize the latter wonderfully, so that a diminished quantity of the drug will suffice For example, a glass of hot water will make one half or even one third of the dose of Hunyadi water that will move the bowels, effective and satisfactory It is a matter of therapeutic experience that three daily bowel movements contribute to relieve the sufferings of an *inflamed bladder Diversion of* the blood current toward the intestinal canal under saline laxatives tends to diminish the amount of blood in the walls of the bladder He recalled two cases of hypercatharsis in women with cystitis, one from physic and the other from a poisoned food product, wherein recovery in one and great temporary relief in the other case followed The diet of cystitis patients should be carefully regulated Milk is the most universally used agent For the relief of pain and tenesmus, analgesics are demanded Opium is the supreme agent for the relief of vesical suffering It can be used as Dover's powder, with camphor, also in rectal suppositories It has its drawback, most decidedly, in the way of deranging the secretions and excretions Its chief objection is the induction of the opium habit Other agents, as chloral hydrate and the bromids, very often bring relief from pain They are without the objections of the opium The indications for the medical treatment lie chiefly in the reaction of the urine If the urine is too acid, or very acid, it should be alkalinized It it be alkalin, remedies must be given to change such reaction Remedies can be given by the stomach to accomplish these ends The treatment of all cases of cystitis involves two classes of remedies—those for use by way of the stomach and those for use in the bladder The second subdivision of the remedies used internally in cystitis is the class called germicidal agents Their name is legion Many of them have been used for generations The older germicidal remedies include creosote, used especially where tubercle bacilli are found, cubebs, copaiba oil of sandalwood, tar water uva ursi buchu sodium salicylate, pareira brava and the sulphocarbolates Under this division come the balsams and the terebinthinates These remedies are all old, but they are reliable

The essayist next dwelt on the important remedies for local use in the bladder Before using medicines in the bladder this viscus must be washed out with a normal sterilized salt solution, a dram to the quart, or with a saturated solution of boric acid He uses the latter wholly The injection must be small in amount usually an ounce or two in severe cases, and given slowly The selection of the remedy for intravesical application depends somewhat upon what the urinalysis reveals

In all cases of simple cystitis the sovereign remedy is silver nitrate 1 to 5 per cent In obstinate cases, this is one of the most reliable agents in strong solution, say twenty grains to the ounce Of this five or ten drops only are used The smallest amount should be used at first, larger ones later Its use is *not very painful*, *only exceptionally is it so* One to three or four drams can be used At first it can be used once in two days, later, daily, till its further use can be discontinued Simultaneously with its use, needed remedies by the stomach must be given for acting on the urine The local treatment of the bladder should be performed with complete antiseptic precautions The first thing done should be to wash out the bladder as completely as possible with saline solution or with a saturated solution of boric acid In the majority of cases of cystitis this line of daily treatment is sufficient When no improvement occurs in ten or fourteen days, the mild solution of the silver nitrate can be used with every expectation of a successful issue Many physicians use this agent to begin with, claiming that since silver nitrate is the chief of all remedies for inflammation of mucous membranes and that days of time are gained by commencing all treatment of cystitis by using it Such a claim sounds well, and it seldom disappoints the physician Cases that resist all local and general treatment combined fall under the surgeon's hands

Dr **ALEXANDER HUGH FERGUSON** made some remarks on

THE SURGICAL TREATMENT OF CYSTITIS IN THE FEMALE

He thinks chronic cystitis demands surgical treatment In cases of cystitis in the female, local applications can be made through the cystoscope, and curettage could be performed The application of nitrate of silver, and various topic applications, can be made to inflamed areas and ulcers of the bladder Suprapubic cystotomy in the female has been done and there may be some cases calling for its performance, still he believes there is very little benefit to be derived from drainage suprapubically Colpocystotomy, as practiced in cases of cystitis in the female, needs only to be mentioned to be condemned Draining the bladder through the vagina, causing great discomfort and discharge of urine through that avenue, necessitates subsequent operation to cure the vesicovaginal fistula He only did this operation once, and he always regretted it because he had to do three subsequent operations before the vesicovaginal fistula was closed A careful examination should be made of the uterus and tubes Examination of the kidneys should receive attention before the bladder is treated sometimes after If there is a tubercular condition of the kidney, it had better be treated surgically before the secondary vesical condition, because extension of the disease to the kidney is much more dangerous than extension of the tubercular disease of that organ to the bladder, which can be treated secondarily

Dr G A **KLETSCH** of Milwaukee, in the general discussion which followed the presentation of the above symposium, by invitation, read a short paper on

THE PREVENTION OF CYSTITIS IN THE FEMALE

He said An irritated condition of the bladder producing a congestion is frequently present in the female but as soon as the cause of the irritation is removed, the bladder symptoms disappear This was best illustrated to him in his hospital days by a demonstration of Dr Emmet's In a posterior parametritis, he would fix the cause of an irritable bladder, which would have eventually ended in a cystitis, in inflammation of the uterosacral ligaments He contended that the inflammation in them soon led to contraction and shortening, and consequent dragging of the uterus into the hollow of the sacrum This made tension on the neck of the bladder at its fixed point under the symphysis pubis, the base being attached to the cervix He buttonholed the urethra to relieve this strain thereby allaying the frequent desire to urinate, and then treated the seat of the disturbance to overcome the cause of the trouble This teaches two things in the prevention of bladder troubles 1, to avoid introducing a cause from which a cystitis might arise, 2 to relieve the patient of the one present without the introduction of another through any action of the physician One condition alone can long exist without ending in a cystitis In the autopsy room he has examined many a case, in which a hyperemic condition of the mucous membrane of the bladder was found, this not having developed further than an increase of the vascularity of the part Frequently the intense vascularity indicated that it must have been of long standing, and still no inflammatory process resulted The one element alone was present, which in itself was not sufficient to bring about a cystitis

It is a question in his mind whether infection alone can produce a cystitis Experimentation on animals has been carried on to decide this point When the infectious material was carried into the bladder, was there not a lesion produced which was the seat of inoculation? When called upon to enter the bladder, the one element was present, usually a congestion, and the physician introduces the other from without through the passing of the catheter This behooves physicians to practice great care when they are called upon to exercise this function Not only must all infection be removed from the parts under observation, but the instrument used must be thoroughly sterilized Care must also be observed not to lacerate the tissues, for if the bladder contains decomposed urine, as it usually does, infection would find a fresh nidus by which it could enter and bring about its work of destruction

Further discussion of the papers was participated in by Drs F Kreissl, E C Dudley, Albert Goldspohn, William Cuthbertson, Charles S Bacon, L L McArthur and Lester E Frankenthal

---

French Congress of Surgery

Held at Paris, October 18 to 22, 1898

GUYON delivered an able and interesting address on

NEPHROTOMY

which, he observed, should aim to destroy the smallest possible amount of the renal parenchyma, bleed as little as possible and expose the maximum of renal tissue This is best accomplished with a lumbar recto curved or oblique incision After having freed the organ from its adipose envelope, it is drawn out as much as possible and the pedicle compressed by an assistant The organ is then opened with a long incision on its convex edge extending into the pelvis By introducing a finger into the organ and palpating from the outside with the other hand, a calculus could scarcely be overlooked, although lesions of miliary tuberculosis might escape observation in the cortic substance, and even a neoplasm, as in an instance related, in which the lesions seem insignificant until the microscope revealed the structure of alveolar cancer in a small fragment of false membrane discovered, and nephrectomy confirmed the existence of a renal neoplasm which had escaped attention He considers nephrotomy superior to pyelotomy for the removal of calculi, except in the one case when palpation demonstrates a regularly shaped, medium sized calculus in the pelvis The best incision for nephrostomy is the lumbar recto curved or oblique, downward and outward This incision at once reaches Henle's vertebro costal ligament, useful in managing the pleura After having incised the convex edge of the organ and explored the inside, the walls between the different divisions should be destroyed as much as possible, and to avoid purulent peripheral lesions and facilitate future operations, the two valves of the renal tissue should be sutured to the lips of the parietal wound, as close to the integument as possible, thus evacuating and re establishing the function of the kidney in case of anuria He called attention to the remarkable tolerance of the kidney for this operation, with or without previous retention Notwithstanding the free communication of the organ with the exterior and the drainage, infection does not invade the tissues There is merely a slight sclerosis extending inward more or less from the edges of the wound The renal tissue is not affected and the urine of a nephrostomized kidney scarcely differs from normal Nephrostomy seems the superior operation in most cases of calculous anuria, and the only operation in serious cases Both kidneys are usually more or less affected even in simple primary lithiasis, and in most cases the other kidney is no longer working properly when the anuria appears It may seem normal in some cases, but is still liable to have lessions of an aseptic nephritis when render it particularly sensitive to the inhibiting influence of a reflex emanating from the other kidney (Guyon's reno renal reflex) Nephrostomy is far from the ideal conservative operation in uronephrosis The cause should be removed if possible with ureteral catheterism, nephrorrhaphy, ureterotomy or utreteropyelostomy But if the other kidney is destroyed and it is indispensable to retain all of the renal parenchyma that has been spared, then nephrostomy is directly indicated The advantages of nephrostomy in simple pyonephrosis are evident The objection of the fistula has been shown to be unfounded, as in many cases it heals in a few months or even several years after the intervention, and the more readily, the greater the destruction of the kidney In certain cases the fistula can be prevented or healed by simple permanent ureteral catheterism, or by operations re establishing the normal course of the urine Secondary nephrectomy always offers a last resource when healing is evidently impossible and the secretion of the kidney has no longer any actual physiologic value Nephrostomy is almost always preferable to interventions aiming to re establish the normal course of the urine These should be made later, after the nephrostomy, when the general and local conditions are improved Guyon's experience with nephrostomy in tuberculous pyonephrosis has been unfavorable The improvement is always transient. The fistula has always persisted and no patient survived over two years He prefers nephrectomy in these cases, if the other kidney is normal The mortality of primary nephrectomy as published is 28 per cent and of secondary nephrectomy 34 per cent His experience has been sixteen recoveries out of seventeen primary nephrectomies for renal tuberculosis Summarizing his cases with those of Czerny, Bardenheur, Kuster, Israel, Tuffier and Routier, he has a mortality of 10 per cent while the mortality was 17 per cent in 84 nephrostomies for renal tuberculosis The latter operation is therefore only indicated when there are other advanced tuberculous lesions which would render nephrectomy impossible In such cases it is well to take advantage of the undoubted palliative relief of the permanent opening of the kidney, although, after several weeks or months the phenomena return as before Radiography has not fulfilled the hopes of its application to the kidneys

Le Dentu recommended multiple punctures all through the organ, and nephrotomy, in case of nephritis with much pain, persisting months and years in spite of medical treatment

Reynier's experience has been the necessity of a secondary nephrectomy in every case nephrotomized, and he considers primary nephrectomy no more serious than secondary

Bazy rejects as useless or impossible the fastening of the renal edges to the skin He makes his incision from the costomuscular angle to a point two or three finger breadths above the highest part of the iliac crest After nephrectomy he places a bougie in the ureter through the pelvis, to ensure the permeability of the tunnel and prevent its obstruction by clots or pus after the operation He recommends cystoscopy and the use of methylene blue as the best means of exploring the condition of the other kidney, observing that catheterism of the ureter may carry the infection into a sound ureter from an infected bladder He reports only two cases in fifty nephrotomies, in which he had to operate twice, and only three in which a secondary nephrectomy was necessary Tuffier reported fifty-seven nephrotomies in three cases through an abdominal incision with the precaution to suture the prerenal peritoneum to the parietal peritoneum before opening the purulent pocket of the pyonephrosis He noted in many cases the existence of very small, almost microscopic foci at the nephrotomy, which developed later into multiple abscesses He considers nephrectomy indicated not only for lithiasis and pain as suggested by Le Dentu, but also for renal hemorrhage and certain forms of nephritis It should be performed as early as possible He rejects nephrotomy in cases of hydronephrosis, preferring plastic operations to re establish the course of the urine

Doyen reported a patient cured and in perfect health eleven years after nephrotomy, preceded by an incision of the kidney which showed it invaded by miliary tuberculosis He avoids the dangers of retrograde catheterism by first carefully rinsing out the bladder and then having each ureter compressed in turn Pus is then found in the urine after compression of the ureter on the side of the suppuration, but if the other kidney is sound no pus is found after the bladder has been rinsed again and the other ureter compressed

Legueu described a case in which nothing was found at the nephrotomy, and yet the patient was very much benefited by the purely exploratory operation The trouble had evidently been renal neuralgia in a very nervous woman

Albarran observed that a fistula is rare in a kidney not distended at the moment of operating, outside of tuberculosis But when there is retention a fistula is frequent, on account of the constriction, the bending, or the vicious insertion of the ureter in the pyelorenal pocket When the course of the urine through the ureter is once established, the fistula closes spontaneously, this he accomplishes by inserting a permanent sound In case of a fistulous opening, if the analysis of the urine indicates benefit from retaining the organ, he inserts a sound, replacing it by larger sizes during the days following, using it for irrigations of the kidney pocket and withdrawing it in a fortnight If in spite of the closing of the fistula, there are still indications of retention, he inserts the sound as far as it will go, and then incises the kidney, finding the ureter by means of the sound, and performing ureterotomy, ureteropyelostomy, uretero pyeloneostomy, autoplastic resection of the kidney or "capittonage" of the pyelorenal pocket With a purulent fistula a careful diagnosis should be made with ureteral catheterism If the kidney secretes pus through the sound, cleanse and open wide the perirenal foci The kidney should not be extirpated unless it is impossible to empty these foci without ablation of the organ If the kidney is not secreting at all, nephrectomy is indicated In regard to operations to re establish the normal course of the urine, he advises not operating at the same time as the nephrostomy, but waiting for the inflammation to subside He also recommends not hurrying the healing of the fistula After a while the ureteritis may subside and the conditions become more favorable

Phocas reported a case of six months insanity consecutive to a nephrotomy

Delbet described the remarkable result of nephrotomy in a man of 60 years, too weak from his tuberculous pyonephrosis to undergo nephrectomy Five liters of pus and 560 c c of cheesy substance were removed He curetted every three or four days, and injected iodoformed ether every second day The patient was dying at the moment of the intervention, but recovered, has gained in weight and seems quite well a year later, still keeping his fistula

Loumeau related a case of severe renal hematuria nephrotomized and cured, although no appreciable lesions were discovered

Jonnesco also emphasized the absolute benignity and unquestionable efficacy of nephrotomy and nephrolithotomy, followed by the immediate suture of the kidney

Chibret reported the unique case of a vigorous man of 55 years, in good health except an attack of nephritic colic and complete anuria A nephrotomy failed to show any calculi or gravel, but the kidney was nearly twice its normal size, purple, very much congested and so friable that when he tried to draw it out to the wound, his fingers sank into it as into a soft substance, and it was with the finger that he opened it down to the pelvis, smooth recovery

Reverdin of Geneva, in his address on

THE SURGICAL TREATMENT OF GOITER

stated that the mortality in 6103 operations has been 2 88 per cent, but eliminating the older, complicated cases, the mortality would be very little above zero The mortality from total extirpation has been 26 deaths in 137 operations, from interglandular enucleation less than 0 78 per cent from the combined methods, 2 99 per cent, from Mikulicz' resection, 6 66 per cent, and from partial extirpation 3 56 per cent Several enlarged upon the dangers of chloroform and expressed their preference for cocain in their operation

Doyen inserts a tube in the larynx, by which means he can use chloroform at will He stated that with his "crushers" he can perform thyroidectomy in five to ten minutes

Roux mentioned that he had long ago discarded chloroform anesthesia, but that he found pulmonary disorders afterward, usually attributed to the chloroform were as frequent as without it Hundreds of enucleations were reported by other members with only one death (paralysis of the heart)

Girard operated on one woman in labor on account of imminent suffocation The child was born dead but the mother recovered

Berard mentioned that after partial operations on the thyroid, fever and nervous phenomena are frequently observed, not serious, evidently due to the liberation of substances normally secreted by the gland which produced the "thyroid fever"

Picque classified "Otitic Suppurations" as osteodural, intradural, pericerebellar and intracerebellar abscesses, the latter either cortical or medullary and requiring more than simple trephining—an osteoplastic operation with a mastoido occipital flap, retro and sub sinous, which allows full inspection of the cerebellar pocket

Landolt extolled the advantages of his method of treating strabismus—detaching the muscle and attaching it with a couple of stitches near the cornea In case of extreme strabismus he combines with the advancement, the resection of the tendon end of the muscle, and supplements the operation with orthoptic exercises

Faure suggested treating facial paralysis by an anastomosis between the peripheral end of the facial nerve and the end of the spinal nerve—the trapezian branch severed at a convenient point

Coudray recommended resection of the external branch of the spinal as the best treatment for spasmodic torticollis

Calot reported many cures of affections of the cervical glands without scars by injecting two or three grams of a fiftieth solution of chlorid of zinc with a very fine needle three or four times, with an interval of two days, completing the cure with injections of camphorated naphthol

Jonnesco reported six recoveries in sixteen operations of temporary craniectomy (fourteen hemicraniotomies two partial craniectomies in four cases resection of the cortex to a greater or less extent. In eleven cases the operation was performed to relieve edema of the brain One patient died from hemorrhage two from later development The six recoveries included two of traumatic and one of Jacksonian epilepsy, two hysteria with prostration and idiotism, with mania There were two much affected, six were unaffected by the operation (two epileptics with acute mania and four idiots

LEGUEU described a case of extirpation of a mammary neoplasm, in which an early recurrence required operating, leaving a large defect As all the available flaps had been used in the first operation he detached the sound breast and sutured it with the nipple on the median line, as a large flap, with success

FROELICH reported twelve recoveries in twenty six cases of Potts' disease in infants, which he treated by strapping the child, dressed, to a board in extreme lordosis Four died and ten are still under treatment He noted that the paralysis is localized in the two members, but is never absolute

TUFFIER announced that his attempts to cause atrophy in inoperable tumors with "atrophying ligatures," had failed to produce the slightest curative effect, although as a palliative measure they procure the cessation of the ichorous and other discharges

LARGER stated that he had found local or general baths of saturated solution of potassium chlorate extremely effective in relieving the pain in extensive burns He continues the application of the chlorate in compresses on a superficial burn, and treats a deep burn as an ordinary after the pain has been relieved The fact was emphasized by several, that patients apply earlier for an operation now than formerly

ROUX observed in the conclusion to his review of two years of gastro intestinal surgery, that the Y-posterior gastro enterostomy, with a suture in three stages, is not in itself a dangerous operation, notwithstanding its length and the possible escape of a little of the intestinal contents, as in twenty four gastro enterostomies for pylorus affections he has not lost a single patient The operation was completed in forty three minutes Almost all were cicatricial constrictions or fibrinous rings from old gastroptoses

TUFFIER observed that he did not decide upon the method of "abouchment until after he had removed the tumors and considered the conditions left His record is, sixty two operations on the stomach, fifty gastro enterostomies, with two deaths, nine pylorectomies (three deaths and six cures) and three operations limited to detaching adherences

DOYEN advocates the Y-anastomosis, like Roux, but makes the abouchement lateral instead of terminal, which reduces to the minimum the orifice for the passage of the bile into the jejunum, thus avoiding the regurgitation of bile The gastro enterostomy should be as far as possible on the face of the stomach and transmeso colic This insures the slope and emptying of the stomach contents

DOYEN was the *first to propose* surgical intervention for non cancerous affections of the stomach, not only for ulcer and cicatricial stenosis, but for spasmodic contraction of the pylorus with enlarged or contracted stomach His method of pylorectomy consists in isolating the tumor, holding the gastro colic omentum out of the way with a few ligatures, then applying his "crushers" *beyond the tumor on the duodenum*, reducing the intestine to the single thickness of the serous coat A double ligature is placed in the groove and the intestine cut between the two ligatures, thus avoiding the escape of any fluid The resulting stump is pushed back into the duodenal cavity with a double "purse" suture, after having removed, with scissors and thermocautery, any scraps of mucosa beyond the thread The same operation is then done on the side toward the stomach, which can be pivoted outward The forceps must be applied twice and a strong thread tied firmly in the groove If the tumor is small a double purse suture is enough, but if large, a couple of superposed rows of overcast sutures are required He proceeds to the gastro enterostomy by perforating the mesocolon, and drawing down the posterior face of the stomach The edge of the orifice of the mesocolon is overcast to the stomach, preventing the strangling of the small intestine at this point The loop of the jejunum is drawn up, fastened to the stomach, and a lateral anastomosis made, after which the origin of the jejunum is sectioned with the "crushers" between a double ligature The two stumps are finished as before with the purse suture At this moment the stomach communicates with the jejunum laterally anastomosed, the upper end of which forms a cul de sac The duodenum and the origin of the jejunum have become a tube closed at both ends Nothing further is required except a lateral jejuno jejunal anastomosis with a very small opening for the bile The duodenum by this process becomes a prolongation of the common bile and the pancreatic ducts This method of operating "crushing," the purse ligature, and Doyen's elastic jaw forceps, realizes the most aseptic conditions, allowing gastro and enterostomosis without any contamination of the field by fluids from the alimentary canal He applies the same method to all his operations on the stomach, small or large intestine and especially to the resection of the appendix (*vide* JOURNAL, page 73)

LUCAS CHAMPIONNIERE confirmed the great advantages of his method of mobilizing fractures from the first (*vide* JOURNAL, xxviii, page 1034)

MASSE reported that a number of dogs that had cholecystogastrostomy performed on them over a year ago, are still well, with normal digestion in spite of the presence of bile in the stomach The common bile duct had been ligated in the middle in most of them The results indicate that this operation could be applied successfully to man in case of total obstruction of the bile duct The tolerance of the stomach for the bile also indicates that the care taken to prevent possible reflux of the bile into the stomach in gastro enterostomies has been unnecessary

GUINARD mentioned, as an aid in the diagnosis of perforating gastric ulcers, the appearance of the pain as a sudden sharp stab, near the left false ribs on the nipple line, the peculiar form of the tympanism and the ballooning of the abdomen and, especially, the record of the gastric past Only two successes were noted in the eleven cases operated reported by several present

WALTHER has observed the pain in two cases occurring in the lower abdomen, where there was an encysted peritonitis, connected with the perforation by adherences

DELAGENIERE reported ten cases of surgery of the bile passages, mostly abouching the gall bladder through the rectus muscle in the anterior fascia of the muscle, one death The cholecystostomy not only disinfects the bile passages and diverts the course of the bile, at least temporarily, but prevents any increased tension in the passages, thus avoiding rupture of the sutures and the escape of bile Thanks to the fistula the sutures can be relied upon to hold

ABADIE observed that section of the cervical sympathetic as theoretically indicated in a number of disturbances in certain organs caused by permanent excitation of the vasomotor nerves, leading to disordered nutrition, and that other affections besides exophthalmic goiter and glaucoma, may be found amenable to the same treatment He added that we should study the morbid phenomena that may be determined in the viscera of the thorax and abdomen by the vasomotors of the sympathetic in these regions

TEMOIN related an instance of fetal exaggeration of the symptoms in exophthalmic goiter consecutive to bilateral resection of the cervical ganglia

JONNESCO reported six cures and four improvements in ten cases of exophthalmic goiter thus treated, adding an account of the excellent results attained in 45 cases of epilepsy and 7 of glaucoma with resection of the cervical sympathetic

Next year the congress will discuss the questions "Total Abdominal Hysterectomy," and "Tumors of the Bones," with addresses by Ricard, Pollosson and Berard

SELECTIONS

Shall the Consultant Pay the General Practitioner for Cases Referred to Him?—A contributor to the *Colorado Medical Journal* raises this question for discussion and argues for an affirmative reply as regards certain cases His argument fails to satisfy the positive ideas of ethics of the editor of the *Philadelphia Medical Journal*, whose comment provokes a rather severe rejoinder in the first-named journal, and elsewhere the question is being taken up and discussed The original proposer of the discussion, who shows his sincerity and earnestness by signing his name to his communication, argues simply that the general practitioner, before referring a case to the specialist, sometimes gives it a certain amount of attention, for which the patient will not pay him, and that therefore the specialist, who is benefited by such reference, should reimburse him The rightfulness of paying for cases referred in this way must, however, be considered quite apart from the excuse of seeking by secret connivance *to extort from* an unappreciative patient, what may be rightfully due to his regular medical attendant It involves more important influences and issues There is reason to believe that it has been resorted to without any such plausible excuse, and by those who have not the manliness to avow such a practice, although they might hope that an avowal would bring to them patients from such doctors as were willing to advise patients to go where it would be most to their own (the doctors') pecuniary advantage. While it may be a very small proportion of the profession who are liable to do any loose thinking on this subject, loose thinking does lead to loose practice, and on that account the subject is worthy to be generally discussed and to have its different aspects clearly presented. Even dropping all appeal to what are called higher motives, and considering it solely from the standpoint of selfish pecuniary interests, there is more than one side to the question. From the side of the general practitioner it may well be asked: Will the peddling of the patients prove permanently profitable? While it might be anticipated that there would be lively bidding among rival specialists, and that the young, inexperienced and ambitious would presently be willing to turn over the whole fee for the sake of experience and *eclat*, other things must be thought of. Can the general practitioner always land his patient in the net of the specialist who will charge the largest fee and share it most liberally? Can the transaction be repeated with the same patient or any of his friends? Will the patient so referred ever return to the general practitioner at all? Will not the specialist, instead of regarding the patient as leased, regard him as transferred in fee simple, and be shrewd enough to see that the way to recoup is by himself referring the patient to the next specialist, and so on until the patient can no longer be "referred" (sold), or is not worth "referring?" While the specialist may think it would pay to give a good percentage for patients, and so keep busy, gain experience, and come to be known as a rising specialist, instead of spending years of waiting in hard study of literature and the minute investigation of his few cases; while it may appear probable that the occasional reluctance of the general practitioner to give his patient the chance of benefit by the specialist's "superior knowledge and skill," would pass away under the influence of the proper percentage; while one might hope that the general practitioner with a direct pecuniary interest would be able to discover more cases of cataract, appendicitis or retroversion requiring operation, and even succeed in steering his neighbor's patients to his own pecuniary advantage, it must not be overlooked that the general practitioner who enters upon such a course may become too grasping—may prefer a larger fee to a smaller, and thus become the canvasser for the embryo specialist or recent graduate who can afford to pay most for the opportunity to gain experience and advertise himself to the community. Then what will one's reputation be worth when the truth leaks out that it is built upon recommendations for revenue only? But when it comes to considering the scheme from the standpoint of the patient there ceases to be anything to consider, for no such plan can be put in operation with the consent of the patient. He will not knowingly pay indirectly through the specialist a fee that he would refuse to pay directly to his family physician, and if he knew that he was advised to go to a specialist who would divide the fee with his adviser such advice would not be worth giving. Only when all the parties directly concerned understand its nature, and agree to it, is a business transaction legitimate or honest. What is taken by stealth is stolen. If you claim that it is not theft to take what property belongs to you, the reply is that taking it by stealth always raises the presumption that it does not belong to you. The payment and acceptance of a fee from the specialist without the knowledge of the patient belongs exactly in the same category as collusion with the apothecary for a percentage on prescriptions. Only when the thing is done with the full knowledge of the patient can the referring physician rise from the level of a bunco steerer to that of the paid agent or respectable drummer of the specialist. If any physician wishes to serve his patients as a professional adviser he must preserve his patient's respect and his own self respect by openly demanding a proper recompense for his services, and properly enforcing that demand. He must not seek to obtain secretly and through the aid of another, what he is afraid or ashamed to ask openly. That would be a poor way indeed to dignify his calling and teach a proper respect for his services.—*Philadelphia Polyclinic*, December 3.

Hawking Physicians.—There may have been a time when the physician to some royal court found time and was permitted to engage in the sport of hunting with a hawk upon the wrist. Our present remarks do not apply to this kind of gaming, but to a less ennobling pursuit of crying one's wares upon the street or peddling them out for the highest price obtainable. Several of our contemporaries have had much to say of late upon the subject of commissions paid by specialists to general practitioners for cases referred to them. That there exists any very considerable amount of such reprehensible practice we are not inclined to believe, but that reference cases are at times paid for on the one side and the dividend freely accepted on the other is undoubtedly true. More's the pity. What has been called "bargain counter" surgery, especially in the realms of abdominal and pelvic pathology, must have some existence in fact, or one would not hear of it from so many different sources. The blame has been placed almost exclusively at the door of the specialist, but one correspondent touches the keynote, it would seem, when he says that "country doctors frequently go about from surgeon to surgeon, seeking the highest bidder." It would not be surprising if equal blame were to be attached to him who has the case to sell and to the one who is willing to buy. It was some years ago that many reputable surgeons in this city were shocked in their finer susceptibilities by a down East doctor who landed in town with six laparotomy cases, which he proceeded to farm out on terms most advantageous to himself. Many of the surgeons approached had not before heard of such shrewd businesslike methods being applied to human existence, and very properly showed the visitor the door. Undoubtedly these surgeons would pursue the same course today. It is at least to be hoped they would. Whether or not this hawkster succeeded in finding an operator sufficiently devoid of ethical honesty to offer the proper "divy" is not divulged. He may have taken the subjects to one of our neighboring cities, where so great a cry has gone up against the giving and accepting of commissions as to lead one to infer that the practice is much more prevalent than with us. Or he may have gone with his half dozen protruding females back to his quiet New England village, and by operating upon them himself secured the whole of a smaller fee. Whatever may have been the outcome of the pilgrimage, the lesson must have been learned that because one man "sells" another does not always feel inclined to "be sold." Among the worst medical sins are to be reckoned those of commission. Physicians who indulge in such practices must sooner or later come to grief, and it would be better that both sides take warning before the patients discover for themselves that their welfare is being bartered and that they are likely to fall into the hands of incompetents willing to overcharge in order to pay exorbitant dividends.—*Medical Record*, December 3.

PRACTICAL NOTES

Local Treatment of Neuralgia.—Apply, two or three times a day, the following mixture on cotton: Menthol and guaiacol, aa 1 gm.; alcohol absol. 18 gm.—*Vienna Klin. Rund.*, November 13.

Motet's Operation for Ptosis.—Ptosis can be corrected by utilizing the synergy between the levator palpebræ and the muscles of the globe. Motet cuts a strip in the rectus superior and pulls it through a buttonhole in the tarsal cartilage to suture it to the upper lid.—*Gaz. Méd. de Paris*, November 12.

Scarlet Fever After Laparotomy.—A. Sippel reports a case of scarlet fever appearing in a virgin three days after laparotomy for an ovarial tumor; evidently the infection had occurred previous to the operation. He concludes from the favorable course and lack of complications in this case that it is unnecessary to defer an important operation, herniotomy for instance, in a scarlet fever patient, and that a child could be delivered without being infected in simple scarlet fever —*Munich Med Woch* , November 15

Formaldehyde Disinfection —Fairbanks states in the *Cbl f Bacteriologie* that raising the temperature of the room to be disinfected to 70 to 73 degrees shortens the time necessary for the disinfection He used a Schering apparatus and found that bacteria were killed in eight hours, instead of requiring over twenty four as previously

Lupus Erythematodes —Hebra reports remarkable success in six cases of this affection treated simply with alcohol applied on cotton, with which the surface is dabbed forty to fifty times In each case the cure was prompt and complete, in spite of the chronic character of the lupus Kohn has also applied it with success Kaposi observed that the alcohol may have been the effective factor in the old spiritus sapon kalin Soap must be avoided while the alcohol is being used —*Vienna klin Woch* , November 17

Sign of Sclerosis of the Aorta —Cherchevsky calls attention to a sign that will reveal sclerosis of the cross of the aorta even in its incipient stages He has established that the arch of the aorta in normal persons has a variable dimension, as can be determined by tapping the region of the aorta with the percussion hammer five to ten times The aorta dilates, and its increased diameter can be readily detected with the percussion But if there is sclerosis the aorta remains unchanged —*Semaine Méd* , No 51

Heteroplastics for Prolapsus of the Brain —F Franke relates (*Cbl f Chir* , November 26) his success with a celluloid plate with projecting ends, which he inserted under the edges of the skull to close the defect after operating on an abscess behind the ear, through which the brain matter was protruding with such tension that no sutures would hold The celluloid plate held the brain substance in check for several weeks, when it was removed The prolapsus had disappeared and a bone skin flap from the regio supra mastoides was applied with immediate and permanent success

Potassium Chlorate for Burns —Lutaud's method of applying chlorate of potassium to burns, for which it is being highly recommended of late, is Open the blisters and apply cataplasms every four hours until the epidermic flaps are entirely detached A sheet of cotton moistened with a solution of potassium chlorate is then applied and oiled silk over it To prevent sticking to the wound a little glycerin is added to the solution or the chlorate is incorporated with lard , or, better still, Declat's glyco phenique is used instead of the glycerin The sedative effect of phenic acid on burns is remarkable —*Jour de Méd de Paris*, November 20

Water Gymnastics —Von Leyden and Goldscheider emphasize the importance of the effects attained in cases of atrophy of the lower extremities, painful joints, etc , by a series of gymnastic exercises performed under water, which should be at a temperature of 28 to 32 degrees R The sensation of weight and resistance is removed and the buoyancy imparts both a physiologic and psychic stimulus of great value An attendant holds the trunk still, if necessary If able to stand, the exercises are best performed in an erect position, the body supported —*Deutsche Med Woch* , November 17

Vomiting of Pregnancy —Barth observes that uncontrollable vomiting in pregnancy depends upon two factors in varying proportions , a nervous influence emanating from the uterus and reflected upon the nerves of the stomach, and an auto intoxication from defective function of the liver The clinician should carefully inform himself in regard to the pathologic past of the patient as soon as possible, as temporizing is criminal when there is an evident hepatic lesion In such a case, if an exclusive milk diet and oxidating medicating do not control the vomiting, then there is but one thing to be done, i e , arrest the pregnancy and at once, before the autointoxication aggravated by the digestive disturbances and inanition has time to produce irremediable disorders in the organism —*Semaine Méd* , November 16

Euphorbium in Surgical Tuberculosis —Pénières announced a year ago that he had been very successful in curing local tuberculous processes with an emulsion of the gum resin, euphorbium He now states that experience and time have only confirmed the great value of this simple treatment, particularly in monoganglionary adenitis, which is usually cured with two or three injections One striking case is a girl of 14 years, who had an enormous poliadenitis on the right side of the neck, almost inoperable The left side had been similarly affected, but had been operated several times and was seamed with scars The tumor compressed the ear, causing deafness , its surface was covered with suppurating fistulous openings, and even respiration was impeded, but the case was entirely cured in a few months with a dozen injections of the euphorbium, made very irregularly The tumors and deafness disappeared, and the skin became white and supple —*Gaz Méd de Paris*, November 12

Gastrotomy —Urban reports a case of carcinomatous degenerated stomach entirely removed , smooth recovery , no disturbance in digestion , woman of 35 years (*Munich Med Woch* , November 22) Perier recently presented before the Paris Academy of Medicine a patient operated on a year before for a neoplasm requiring excision of the middle portion of the stomach and of the transverse mesocolon He then united the two culs de sac left after this annular excision, with a double suture reinforced by a lining made of the omentum She has gained 13 kilos in weight, appetite is good and digestion easy Constipation is controlled with cascarin and injections daily He emphasized the necessity of pushing down and away from the field of operation the fecal matters in the colon By pushing the contents of the distended colon down to the sigmoid flexure, he was able in the course of three days, with numerous injections and suppositories, to secure a copious passage, after which the patient rapidly improved, although her condition had been quite precarious before He ascribes to the ignorance of this necessity his failure in another case which promised equally well He concludes his communication with the advice to push the contents of the intestines during a laparotomy well down into the rectum, when the accumulations indicate any difficulty of evacuation —*Bulletin*, November 15

Sulphuric Acid in Infections —Noskowski states that sulphuric acid is extremely effective in arresting infections, on account of its property of absorbing oxygen Bacteria in general are unable to live without oxygen, and where it is lacking they procure it by decomposing organic substances, if possible , if not, they die Sulphuric acid also obtains it from the same substances as the bacteria, and introduced into the organism it absorbs the oxygen, which stimulates the hematosis, respiration, circulation and the organic exchanges, thus depriving the bacteria of the oxygen they require and also stimulating the organism to repel their invasion He finds that animals can take 25 milligrams of sulphuric acid per kilogram without injury, in a subcutaneous injection His method with man is small rectal injections of 10 centigrams of nascent sulphuric acid made by dissolving in water a sulphid and an organic acid, fractioning the dose as desired Infants can take 10 milligrams every two hours, increasing gradually to the age of 8, when the dose can be 10 centigrams, as for an adult One to six of these injections will certainly cure intestinal infections in young and old Three to twelve injections are necessary in typhoid fever, eruptive fevers and influenza Even in advanced tuberculosis they will prolong life many years, and in fresh cases have resulted in a few cures He has it inhaled in a gaseous form in pulmonary affections

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE, INCLUDING POSTAGE

Per Annum in Advance $5 00
Foreign Postage 2 00
Single Copies 10 Cents

In requesting change of address, give old as well as new location

Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION
No 61 Market Street (Occidental Bldgs), Chicago Illinois

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION

This is obtainable at any time by a member of any State or local Medical Society which is entitled to send delegates to the Association All that is necessary is for the applicant to write to the Treasurer of the Association Dr Henry P Newman 100 Washington St Chicago Ill sending him a certificate or statement that the applicant is in good standing in his own Society signed by the President and Secretary of said Society Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership

On receipt of the subscription the weekly JOURNAL of the Association will be forwarded regularly

Gentlemen already members of the Association should send their annual subscription to the Treasurer or direct to the JOURNAL office

All communications and manuscript of whatever character intended for publication in the JOURNAL should be addressed to the *Editor* and all communications relative to the business of the JOURNAL proof sheet returned, or in regard to subscriptions should be addressed to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 61 Market Street (Occidental Buildings), Chicago

Original communications are only received with the understanding that they are exclusively contributed to this JOURNAL

SATURDAY, DECEMBER 17, 1898

STUDIES OF THE COLON BACILLUS —COLON INFECTION OF THE URINARY TRACT

The colon bacillus has been found in connection with a large number of diseases, but whether it can be stated to be the real cause of many of these processes is still an undecided question There are as yet great difficulties in the way of accurate identification and classification of bacteria, as witness the so long confused relations between the colon and typhoid bacilli Only recently has it been possible, by means of PFEIFFER's phenomenon (Widal's reaction), to show that there is a fundamental difference between these two organisms

A large number of the investigations bearing on the colon bacillus are of little value, because of the incomplete descriptions of the forms of growth and other biologic characteristics of the bacilli studied RAHLFF[1] attempts to draw a clear picture of the typic colon bacillus and its biology For this purpose he cultivated sixty-two different kinds of this microbe, partly from the feces, partly from pathologic products

He describes the typic colon bacillus as follows It is decolorized by GRAM's method, does not liquefy gelatin, it decomposes lactose and glucose, and grows quite luxuriously on different kinds of potato It does not decompose urea, but among the author s sixty two varieties there were two which decomposed urea, one of these coming from the feces, the other from urine containing pus There are numerous microbes that resemble the colon bacillus but differ in one or more points from the typic organism Consequently, all investigations concerning this bacillus or allied forms should definitely specify the morphologic and biologic characteristics

The forms which RAHLFF has studied were obtained partly from normal feces, partly from pus in perforation peritonitis, and also from purulent urine In many cases one variety was obtained from the normal excretions, and another from the pathologic product The virulence was determined in a large number of cases by intraperitoneal injections into guinea-pigs It was found that the colon bacilli from the normal feces, as a general rule possessed the same nearly constant degree of virulence, whereas the bacilli that were obtained from the urine varied very much, some being more virulent, others less virulent than those isolated from the feces of the same individual

Among the large number of disease processes with which the colon bacillus is more or less closely connected, the author has selected for more extensive study, infectious processes in the urinary tract and perforative peritonitis Previous investigations in regard to the infections of the urinary tract are undoubtedly vitiated in many instances by two distinct sources of error the first one is, that urinary, especially tube, cultures from fluids and organs containing colon bacilli and other bacteria very often yield but one growth, namely of the colon bacilli, which have the power of preventing by overcrowding the growth of other bacteria In such cases, microscopic examinations, careful study of smears, and various technic aids must be employed in order to demonstrate the possible presence of microbes which the cultures do not bring to light In these cases the primary cultures should alway be made by the plate method Another source of error is to be watched for in examinations in regard to the presence of colon bacilli in dead bodies It may be regarded as fairly well established, that the colon bacillus may migrate in large quantities into parenchymatous organs, not only after death but also during the agony, and that when found outside the digestive tract under such circumstances the colon bacillus has undoubtedly incorrectly been regarded as the cause of the perhaps fatal illness

In agreement with the claims of ROVSING, RAHLFF insists that the colon infection of the urinary tract is essentially a benign process The colon bacillus but rarely attacks the bladder, the kidney and the pelvis are however, often involved, being the seat of the primary infection, which may descend along the ureter The colon infection of the kidney and renal pelvis is described clinically as of rather sudden beginning, with fever and chills at times severe and persistent, at other times less well marked lumbar pains, and a constant diarrhea Often the urine is burning there may be vesical tenesmus, and the urine, which is acid, will be found to contain more or less pus and numerous bacteria Objectively, there is usually a marked tenderness in the region of the kidneys The attacks subside very generally without any treatment, except that the urine may continue opalescent and free of bacteria for a longer or shorter time, while the patients have otherwise apparently regained perfect health The author believes that the more severe cases depend upon a gastro-intestinal disturbance, which is shown by the very nearly constant diarrhea, and that from the intestinal tract the colon bacilli pass into the blood and become localized in the kidney and the pelvis In many cases a preexisting nephrolithiasis seems to favor this localization It is very probable that the local renal infection occurs during the process of elimination through the kidneys

---

[1] Studier over colibacillen 1895

OYSTERS AND DISEASE GERMS

There are probably few persons of any taste who doubt the wholesomeness of oysters, though the question has been raised and extensively discussed in times past In the light of modern germ theories it again comes to the front, and the possibility of their conveying disease has to be seriously considered Three or four years ago an epidemic of typhoid among the students of an eastern college was credited to the ingestion of oysters that had been taken from sewage contaminated water, and some similar experiences in Great Britain led to the appointment of a committee of the British Association for the Advancement of Science to investigate the matter and report results This committee, consisting of Professors HERDMAN (chairman), BOYCE and SHERRINGTON, Dr C A KOHN and Mr G C BOURNE, has this year made the third and final report, the substance of which is given in *Science* of November 27

In a previous report the committee had already called attention to the presence of organisms in oysters closely resembling the bacillus coli communis, and also of others varying somewhat in their reaction from this species, and strongly suggestive of Eberth's bacillus, and a comprehensive Local Government Board Report of Dr KLEIN had likewise done the same Their later researches, which were not solely confined to oysters, but included other edible mollusks, mussels, periwinkles, whelks, etc, as well, are only confirmatory of these earlier ones, while their additional thoroughness and completer methods give them a decidedly greater value In nineteen samples of oysters from various sources there was found in nine a bacillus closely resembling B coli—in some cases almost a pure culture was obtained with characteristic odor The reactions differed, in one group they were typic, acid, coagulating milk, giving out indol and gas, and the growth on potato was luxuriant In another group, however, there was a very actively motile bacillus that did not coagulate milk, gave out indol and gas bubbles only occasionally, and had in three cases an alkaline and in two a slightly acid reaction Serum tests were negative, and from all the facts the committee concluded that it could hardly be identified with the true typhoid bacillus

In the earlier reports of the two previous years the committee had given the results of experimental infection from oysters, and in the present one they recommend, in view of the existence and frequency of microbes of the colon type in these as well as in other species of shellfish, that steps be taken, either by Government inspection or by co operation amongst the dealers, to remove any possible suspicion of sewage contamination It has been proven sufficiently that oysters can imbibe sewage, and the source of the contamination being proved, the danger is a real one. They recommend the formation of an association of oyster dealers who, for the credit and safety of the trade, will look after the sanitary requirements and provide for periodic examination of the oyster beds, with special reference to their needs They seem to think that there is little danger in oysters from pure sea water, at least so far as regards these disease germs; the peril of sewage infection lies therefore, mainly in the fattening beds, which are apt to be in fresh water or tidal creeks, and in oysters taken from estuaries and rivers that receive the sewage of thickly populated territories

There does not appear to be any evidence given, at least in this final report, that sewage necessarily affects the mollusk itself—it may be that it thrives on it—but it none the less may be a dangerous source of infection to its human consumers The committee report, however, touches upon another possible cause of unwholesomeness in these articles of diet or luxury, that is due to a disease of the oyster itself A green coloration of oysters has long been observed to occasionally occur, and has, in times past, been attributed to copper and occasionally supposed to render the oyster unfit for consumption There has been, however, no really authoritative utterance given out, and green oysters have often enough been eaten without serious consequences The committee investigated this phase of the oyster question also, and find that while a green tinge is not always an indication of the unfitness of the mollusk for human food, it is in some cases associated with a diseased condition, leucocytosis, and that such are not to be recommended It would appear that there is room for further study on this subject, especially in this country, for their researches were apparently confined to European oysters or to American oysters transplanted to European beds The report does not aid us over here to decide what green tinted oysters are wholesome and what are not, we are left in doubt as to the whole class

It would be well if those States in which the oyster fishery is an important industry could utilize the suggestions of this report in some legislative act that would tend to secure the public against possible dangers from contamination of this very important and popular form of sea food. Oyster cultivation is or should be a very important local industry along our coast, but it ought to be under regulation. If oysters fatten in sewage infected streams, this ought not to be permitted to be a temptation to ignorant or unscrupulous breeders, and local government regulations should control the choice of the beds as well as their working. There is an opening for the labors of a State bacteriologist in each and all of the oyster-producing States, sending out as they do a food product so popular and so generally eaten raw or imperfectly cooked and thus especially liable to convey any existing germs of disease.

AUTO-INTOXICATION AND NEURASTHENIA.

The relation of uric acid to neurasthenia has been long ago suggested, but has not entered definitely into the pathology of the disorder. Ordinarily we are or have been inclined to accept the action of the fatigue and exhaustion of the nerve-cell as the principal factor in its production without specially looking further for the influence of morbid metabolism in its production. Nevertheless, in these days, when auto-intoxication is invoked so often as a cause of disease, neurasthenia could not well be overlooked, and certain French authorities, notably among them **Vigouroux**, have maintained that neurasthenia and the arthritic diathesis are closely connected, if not merely differing manifestations of the same general disorders of oxidation and tissue change. In this country we have recognized a disorder the majority of the symptoms of which are essentially neurasthenic—lithemia, as the common American manifestation of the gouty constitutional vice—thus admitting, to a certain extent at least, that auto-intoxication may give rise to these characteristic symptoms. The presence of uric acid in excess in the urine of neurasthenics has long been noted, and the relations of the gouty diathesis to the condition have been admitted by some neurologists who, like **Dercum**, for example, are inclined to admit a toxic factor in its production.

An important addition to the literature of the subject is contributed by **Bechterew**, the well known Russian investigator of the physiology and pathology of the nervous system, in the *Neurologisches Centralblatt* of November 15 last, under the title of "Ueber Störung des Stoffwechesels bei Neurasthenie" (The Disorders of Metabolism in Neurasthenia). He has had for a considerable period, examinations and analyses of the urine of neurasthenic patients carried on in **Poehl's** laboratory, and found that neurasthenia sometimes at least, appeared to depend upon irregularities of oxidation. In general, and especially in the severer types of the disorder, there was a more or less marked decrease of urea and an increase of uric acid. The proportion of the general nitrogen in the urine to that in the urea—which according to **Poehl**, is the coefficient of the oxidation energy and the expression of the tissue respiration—indicated a constant and notable decrease of nitrogen oxidation. The proportion of uric acid to phosphoric acid, in the form of its di-natrium salts showed an increased cleavage of uric acid and led to the conclusion of the presence of a more or less pronounced uric acid diathesis.

In the severer cases of neurasthenia **Bechterew** also found that the proportion of general nitrogen to phosphoric acid, which according to **Sulzer** indicates the decomposition energy of nerve tissue, seemed to be increased, and the same was true to some extent as to the proportion of general phosphoric to the amount of glycero-phosphoric acid, which according to **Lepine**, indicates lecithin decomposition. In many cases also the quantitative ratio of sulphuric acid to the aromatic sulphuric acids that serves as the index of intestinal putrefaction appeared more or less markedly increased.

From these results, **Bechterew** believes that neurasthenia is associated with irregularities of oxidation of nitrogenous substances in the organism and that it must therefore be classed with the other disorders due to and associated with disordered general metabolism. The chief cause is, he thinks, an intestinal auto intoxication, a more reasonable theory than that of gastric dilatation suggested by **Vigouroux**. He does not, however, exclude other predisposing causes of neurasthenia, such as mental strain, etc., which may have their influence in the causation of the intestinal disorder. There is a wide field for research yet in the action of the fatigue poisons, especially in the nervous system, and this may carry us back to still more remote factors in the etiology of neurasthenia. When once intestinal putrefactive poisons are absorbed, however, there may be ample reason for even severer disturbances of the nervous system: the part they play in the causation of some forms of insanity is probably an important one.

There is something in the suggestion thrown out by **Bechterew**, that mental overwork and sedentary habits may divert the proper blood supply of the intestines to some extent and thus embarrass their functions and lead to stasis and absorption of toxic material, and also that shock and other occasional causes of nervous asthenia may act through the vasomotor system. Whether we are justified or not in accepting his conclusions, his facts are valuable additions to the sum of our knowledge as to the conditions associated with neurasthenia, and their suggestions are perhaps still more valuable. They throw additional light on the relation existing between arthritism and neurasthenia, one that must have suggested itself many times to any one with a practical acquaintance with these conditions and one which, though disbelieved in by some authorities, appears to be more and more forcing itself upon our attention. Whether we are to consider them identical in their etiology and pathology is one thing, the recognition of their intimate relation is perhaps another.

ABERRANT FORMS OF CHRONIC LEAD-POISONING

It has been well said by one of the great teachers in medicine that when a patient comes before the physician with obscure symptoms in connection with the nervous system, indicating organic disease, two conditions should always be thought of as the possible exciting cause syphilis, and chronic metallic poisoning in some one of its forms, usually in the form of lead This dictum arose from the fact that syphilis is competent to produce almost any lesion in the body, and that lead often manifests its presence by conditions which are so unusual that its presence as an exciting cause is not suspected It frequently gains access to the body in a manner which does not raise suspicion, as for example, in the well-known epidemics of plumbism that have arisen from the use of previously pure water delivered through lead pipes, the attacks of "dry cholera" so-called which have followed the use of flour ground in mills in which the stones had been "filled" with lead, and again, as in two cases which have come under our notice, it has gained access to the body owing to the fact that seamstresses make it a habit to chew small particles of thread which they bite off when threading their needles which thread when, it was made of silk, was sometimes loaded with lead to increase its weight By this habit of chewing leaded threads enough of the poison was taken into the body to produce saturnismus

It is also becoming a well-known fact that nothing is more easy than to make an erroneous diagnosis of locomotor ataxia when in reality the condition is one of plumbic peripheral neuritis, or pseudo tabes, and these difficulties in diagnosis are increased not only by the facts that we have mentioned, but by the additional discovery, which is becoming more and more clear each year, that the manifestations of chronic lead-poisoning may not appear for a long time after the patient has been exposed to the poison Thus we have recently seen a case in which the symptoms of lead-poisoning did not come on for six months after a painter ceased working at his trade, and several cases of this character have been reported recently in the *Birmingham Medical Review*, by KAUFFMANN, in which the patients presented symptoms of lead-poisoning a number of months after being exposed to the poison, in one instance after almost two years An analysis of the urine in these cases showed the presence of lead, proving that the diagnosis of the cause of the symptoms was correct

The manner in which this curious delay occurs is not far to seek when we study the question of the elimination of lead It is a substance which is eliminated from the body very slowly indeed and, like other metals, has a tendency to accumulate in the tissues, where it forms a fairly stable combination with the protoplasm, and probably also with uric acid, as is illustrated in the development of what has been called "plumbic gout" Further than this, almost every tissue of the body seems to be capable of containing it, though the muscles and blood contain less than any other part In many instances it is evident that these delayed symptoms arise from the gradual deposit of lead in the tissues during the period in which the patient is in a condition of good health and nutrition, and that later on, when by reason of illness, bad food, or unsanitary surroundings, a portion of the protoplasm of the body is utilized for vital processes, the lead which has been deposited is picked up once more by the blood and lymph streams and distributed to the tissues, where it produces its effects This matter is not only of importance from a medical point of view, but also because interesting medico-legal questions arise in connection with it Thus, for example, a suit might be brought upon the part of a person who had been unwittingly exposed to lead with the development of symptoms a number of months afterward, and the defense might claim that it was impossible for so long a period to elapse between the exposure and the development of plumbic symptoms The cases that we have cited show, however, that this would be competent defense

BOOK NOTICES

Transactions of Iowa State Medical Society Vol v Cloth Illustrated Pp 425 Burlington Keehn-Harper Mfg Co 1898

Besides the minutes of the forty seventh annual session of this Society, the volume contains forty eight papers and addresses presented before the Society, with obituary notices and portraits of Drs Elizabeth Hess, Henry Clay Bulis, Walter Oscar Richards, R H Moffit and W A Todd There is also a list of the permanent members of the Society, the Iowa delegation to the Denver meeting of the American Medical Association a list of exhibitors and auxiliary medical societies

Annual Report of Health Officer, Port of New York Paper Illustrated Pp 100 New York and Albany Wynkoop Hollenbeck Crawford Co 1898

This, the report of Health Officer A H Doty, is that for the year 1897, transmitted to the Legislature March 30, 1898 Some of the topics considered are "Inspection of Passengers and Crews of Incoming Foreign Vessels," "Disinfection by Steam," "Formaldehyde as a Disinfectant," "Formaldehyde with Special Reference to its Chemistry in Disinfection," "A Preliminary Note on the Investigation of the Antitoxin of the Bubonic Plague," and "Notes on a Yellow Fever Prophylactic Fluid"

Transactions of Pathological Society of Philadelphia Edited by William S Carter, M D Vol xvii Paper Illustrated Pp 493 Philadelphia Wm J Dornan 1898

This volume contains the report of the Society's proceedings from October, 1895, to June, 1897, and contains lists of former presidents, officers, committees and members The contents are classified under the several heads Diseases of the osseous system, of the digestive tract, of the cardiovascular and hemapoietic systems, of the respiratory tract, of the genito urinary system, of the nervous system, and diseases of the ductless glands There is also a chapter on miscellaneous matters and one on technic

Transactions of Medical Society of West Virginia Paper Illustrated Pp 235 Wheeling W J Johnston

This volume contains the proceedings of the thirty first annual session of this society, held at Martinsburg, W Va, May 18 20, 1898 There is also a "Report on New Remedies," and papers on "Diabetes Insipidus, with Cases;" "Exophthalmic Goiter," "Fracture of the Patella, Treatment by Mediate Ligation," and "A Brief Review of Theo Durrant's Case"

Journal of Proceedings of the National Pure Food and Drug Congress Paper Pp 54 Washington, D C 1898

These proceedings are for the Congress held in Washington, D C, March 2 5, 1898, and comprise the many addresses and papers presented at this session

PUBLIC HEALTH

Book Holder for Schools —The Giessen High School provides each pupil with a simple, cheap, adjustable little book holder to stand on the desk and hold the book open at the proper angle, made on the principle of a folding photograph case —*Deutsche Med Woch*, November 17

Health of Indiana —The reports for November indicate an increase over the preceding month, in area of prevalence, of tonsillitis, bronchitis, rheumatism, pneumonia, scarlet fever, pleuritis, inflammation of bowels and erysipelas Decrease is indicated in intermittent fever, influenza, diarrhea and dysentery Typhoid fever and diphtheria remained unchanged

Intoxication from Meat —Salchow reports five cases of intoxication following the ingestion of some freshly purchased corned meat In two cases vomiting was the only symptom, but the three others, childre[illegible]esented every symptom of severe poisoning with atropin or a similar alkaloid All recovered in ten days —*Deutsche Med Woch*, November 17

Army and Navy Mortality in Life Insurance —The mortality in the British army and navy under modern war conditions, has been analyzed by the secretary of a large life insurance company He found, to begin with, that the selection of men for entrance into the navy is so severe that in the first year the standard of health is considerably higher than among a body of insured lives in the first year of insurance He concludes that 6 1 per 1000 is the extra mortality rate which, for life insurance purposes, may be considered as incident to service in the navy, and that 9 9 per 1000 must similarly be rated as the extra hazard for army service He figures up these extra rates thus, taking as the observed period the ten years, 1886 95 In the army the extra rate among active lives in the whole force was 4 7 per 1000 while in the navy it was only 1 8 per 1000 But the risk of death in active war service was 3 8 per 1000 in both army and navy, from the standpoint of life insurance He quotes from Smee to the effect that "after carefully weighing the available data, and giving consideration to the conditions of modern warfare, and the present strength and efficiency of European armies and navies, and also to the diminished mortality in respect of climatic risk, we propose, for the purposes of the report, to estimate that the British army and navy will be engaged once in forty years in a national war, involving the calling out in active military service for a term not exceeding three years of two thirds of the whole force of officers and men in both branches of the service" and Lord Rosebery, speaking before an association of commercial bodies some weeks ago reminded his hearers that the country is in an epoch of danger, not having been engaged in a European war in forty years past Among British naval stations the Mediterranean has the highest death rate, 10 6, the North American and West Indies station has the lowest 5 1, in the East Indies station the extra mortality rate for insurance purposes was 7 0 in the five years, 1886 90, and 5 8 in 1891 95 the average for all stations is 7 The insanitary condition of the Mediterranean station is chargeable to filthy towns and harbors but this is improving The extra rate in the army has also declined from 10 6 in 1886 to 5 5 in 1896 —*The Independ[illegible]* November 24

Obstacles to Sanitary Service —In the October issue of *Public Health* (London), a curious instance is related of unrequited faithfulness on the part of a health officer, located in the west of England, who ran counter to the wishes of a local politician who was chairman of the district committee In the family of the latter a child was found to be ill of scarlet fever When the health official began to inquire into the origin of the infection the medical officer found that another child in the house had been ill in bed for a fortnight, and was desquamating freely The latter case had not been notified, which fact was reported to the Council At the same meeting, the medical officer had to report that the child of a neighbor had been sent to school within a week of being taken ill with the same disease, and that this case also had not been notified When the report came to be considered, a single proposition was made to prosecute in both cases under the Notification Act According to the newspaper report, the chairman, one of the offenders, did not leave the chair, but remarked that he had a complete answer to the charge It appears from the report that on a vote being taken no one opposed the proposal, nevertheless, the chairman, at a subsequent stage of the proceedings, declared that the proposal had been lost On this declaration being disputed, a second vote was, by leave of the meeting, taken, and the voting was then equal, whereupon the chairman gave his casting vote for quashing proceedings against others as well as himself, and placing the health official at a signal disadvantage as to his future official course It is not easy to think that such a disgraceful bit of jobbery can be matched, and all sanitarians would be pleased to learn that the superior governmental authorities have taken the case into consideration A question arises whether the chairman has not laid himself open to proceedings for a much higher penalty than that provided for under the Notification Act So far as the district in question is concerned, legal proceedings against other offenders must be an impossibility The unfortunate medical officer of health had the courage to report to the council the neglect of its chairman to notify the first case in the family, but being in private practice, has probably very materially injured his patronage

An Efficient Woman's Health Society —The last annual report of Dr J Niven, health officer of Manchester, England, says that no report on the sanitary work of the Manchester Corporation would be complete which did not include some reference to the work done by the Ladies' Health Society in the poorer parts of the city This organization concerns itself partly with social and partly with sanitary matters Established as early as 1862, it has of late appeared to grow in strength and influence That portion of the work in which the society comes in relation with the health office is carried out by health visitors, who are employed, guided, and assisted by the ladies who form the society The female health visitors live in their respective districts, and are at the constant call of the people for help and advice in cases of emergency They visit the houses systematically—six hours a day except Saturday—and a report of their work is received each morning by the health office They supply lime in suitable cases for purposes of lime washing, and lend out Turk's head and flat brushes for use One visitor alone during the last twelve months has had fifty bedrooms, and numerous sculleries, cellars yards and closets thoroughly limewashed by the tenants They supply carbolic soap to poor people at 2d a pound, or 5d a bar of three pounds, which is used in the cleaning of their houses giving away a little at their discretion In those cases where soap is supplied free, the health visitor sees that it is applied to the intended purpose of cleansing the house The cleaning of floors, burning of refuse, washing of clot[illegible] and other parts the [illegible] are [illegible] of great [illegible] to health in [illegible] use [illegible] ction The visitors carry with them disinfecting powder, explaining its use, and leaving it where necessary, at the same time they make a record of any dangerous condition discovered An important part of their work is that which is devoted to the erests of children They call attention to bad clothing and neglected conditions, and do what they can to remedy what is wrong—sometimes even dressing the children in case of neglect, and giving clothing in suitable cases of want They give systematic instruction on infant feeding They also instruct the mothers, in a precise manner, how to keep the children's heads clean, and see that it is actually done They fulfil an important part in the distribution, and oral explanation of printed instructions on feeding children, and on the steps which a householder must take to keep his family in good health In the last annual report of the health officer the results of an inquiry which they made for him on infant feeding is given It is largely through them that a knowledge of the contents of handbills on sanitary matters becomes known to the poorest class They also visit, on behalf of the medical officer of health, the homes at which deaths have occurred, except from any infectious disease, and fill up the card supplied to them in each case They also do other work of a very useful nature, such as lending out maternity bags to poor people, and, in cases of general illness, sheets, night dresses, pillow cases, etc In summer the health visitors recommend suitable children to the Children's Holiday Fund, and see to the cleanliness of the children before they go for the holiday In 1890 the Corporation paid the wages of six of these female health visitors, they now pay the wages of nine —"Annual Report," 1897

A Model Water-Plant Village —The *Sanitary Record*, London, describes a village built up for the accommodation of the workmen and their families, who are employed upon the new waterworks of Birmingham That city has entered upon an expensive undertaking in order to protect itself against the commercial and sanitary embarrassments of water scares, having secured vast water bearing territory in Wales for the purpose of having ample reservoirs The "model village of Birmingham," as it is called, has been built for those employed upon these works, and the details are worthy of note by all interested in the carrying out of great works The houses are built of wood, and the village is approached by a suspension bridge The advantage of this is that "strangers" have to state their business before they can find a way into the place If they are seeking work a night must be spent in the corporation "doss house" on the opposite side of the bridge Here they must strip and have a bath, during the night their clothes are disinfected, and in the morning the applicant has to appear before the resident medical officer If everything is satisfactory a permit is given to cross over, and by this means a clean bill of health is maintained The village itself, to quote from the article we have referred to, is laid out in streets, the house blocks being specially designed, as the case may be, for the accommodation of single families or for the housing of a limited number of unmarried men lodging with a married couple In the latter case each lodger has his own separate cubicle and locker, and enjoys the use of a living room in common with the other inmates of the house The villagers number some 1500 navvies and others employed on the work, with their wives and families Baths and wash houses have also been built, a large public assembly room, a canteen and general store, a postoffice and a police station A medical officer and a staff of trained nurses are associated with the infirmary hospital down near the work, and the isolation fever hospital up on the hillside, away from the abodes of men, and a chaplain and missioner look after the principal well being of the settlement This small town is only a temporary arrangement, that is, when the work is finished it will be removed, yet the sanitary provision made is as complete as for any permanent town A constant water supply is laid to all the houses, and fire hydrants are placed in the streets These derive their supply from a temporary reservoir in the hills behind The main drainage and sewerage works are complete in every particular, and the flushing of the street sewers is carried out on "an original and unique plan," calculated, we are told, to ensure the absolute cleanliness of the system from end to end Advantage is taken of the natural fall of the river, the engineers having laid the main pipe through the village parallel to the river, and continued it up stream till it taps the river flow at a point above the highest house in the settlement Thus a constant stream of pure river water is day and night scouring through the full length of the drainage system, and discharging into the settling tanks down the valley below the village Thence the clarified sewage, very dilute, passes back into the Elan In addition to all these excellent arrangements, a line of rails has been laid from the village to the works After the train has taken the men to their ground it returns to the village and conveys the children of the colony to a school, three miles away

Decline of Vaccination in England —The antivaccinationists are commonly regarded as a "feeble folk," not a most irrational body, peculiar to or but little known outside of the Anglo Saxon race They may be feeble intellectually or logically, from the point of view of the medical majority, but they have been powerful enough politically to increase the numbers of the unfortunates who are susceptible to variola, as well at to stifle the best instincts of the British law givers According to the twenty fourth annual statement of the officials appointed under the act requiring compulsion in England regarding vaccination of infants, passed in 1871, we may believe that in 1872 the proportion of unvaccinated persons in London was 8 8, in the rest of England, 4 5 In 1875 the proportion was as low in England generally as 3 8, but since that time the number has increased until, in 1895, the figure for England and Wales was as high as 20 5 Of the 921,512 births returned as registered during the year 1895, deduction was first made of the deaths that took place before vaccination, of the survivors, 816,682, there were registered 76 5 per cent as successfully vaccinated, 0 4 per cent as either insusceptible or as having had smallpox and, including 1 7 per cent as under medical certificate of postponement, and 23 1 per cent as at that time not finally accounted for as regards vaccination The proportion of cases not finally accounted for in England and Wales for 1895 is 20 5 per cent, in the metropolitan returns for 1895, 24 9 per cent, in the provincial returns 19 8 It is thought by the editor of the *Scalpel* in the issue for October, that a want of care has caused the unpopularity, if it really exists, among the poor of England concerning the best proven remedy for that terrible disease—smallpox—and only by a greater degree of care on the part of every practitioner of the holy art of vaccination can the medical profession go forward in the line of life saving pointed out by Jenner So far as lymph is concerned the vaccinator is enabled to say that in the new glycerinated bovine lymph, it has the best that the ages have yet produced, probably better than that which Jenner himself had to operate with A very plausible objection to vaccination has been removed by the introduction of this relatively aseptic material A common sense view of the question appears to be that it is distinctly unfair to the better educated majority that it should through the faddist opinions of a small and ignorant majority, be exposed to the dangers of a pestilence like smallpox, and it is probable that if instead of abandoning compulsory vaccination, those in authority in England had firmly stood out against the agitation and had resolved to enforce the law strictly, the movement against it would have died a natural death At any rate, it seems safe to make the assertion that this country and other nations who have become convinced by experience that vaccination is a safeguard against the ravages of smallpox, will be chary of following England's lead and of trying what Lord Lister calls "a tremendous experiment" It is interesting to note that Scotland and Ireland refuse to have the new law put into operation within their borders, and that the English Government *does not intend to alter the existing regulations in regard to vaccination in India,* thus plainly showing that in the case of England it is taking steps at variance with its better judgment, as regards its own population, thus giving to its latest legislation upon the subject the color and form of a cowardly compromise and an insincere homage to a sanitary science, falsely so called

SOCIETY NEWS

Medico Chirurgical Society, Louisville —The regular meeting of this society was held at Seelbach's Hotel, December 2, as the guest of Dr L S McMurtry, who read a paper on "Endometritis"

Nelson County (Ky) Medical Society —Among the papers to be read at the regular meeting of this society are "The Nausea and Vomiting of Pregnancy and Its Management," by J B R Cooper, Samuels, "Chronic Glandular Enlargement and Its Treatment, by S B Crume, Bloomfield, "Some Difficulties in the Catheterization of the Male Urethra, by A G Blincoe, Bardstown, "Puerperal Eclampsia," by W S Napper, Boston Dr B E Gore of Bardstown, is president, Dr J W Hill Jr of Boston, secretary

International Congress of Gynecology and Obstetrics —This Congress is to be held at Amsterdam, Aug 8 to 12, 1899 The subjects appointed for discussion are 1 "Surgical Treatment of Fibromyomata" 2 "The Relative Value of Antisepsis and Perfected Technique in the Present Results of Operative Gynecology" 3 "Influence of the Position on the Shape and Size of the Pelvis" 4 "Indications for Cæsarian Section" The official languages will be English, German, French and Italian The addresses, translated into these languages, will be delivered to the members a month before the opening of the Congress

Mildraugh Hill Medical Society —The regular meeting of the society was held at Elizabethtown, Ky, December 8, with Dr C Z Aud as president and Dr E Smith as secretary The following papers were on the program "Some Points in Obstetric Practice," by W A Ligon, Sonora, "Bright's Disease of the Kidney," by Stinson Lambert, Owensboro, "The Care of the Patient in Typhoid Fever," by B M Taylor, Greensburg, "Some Suggestions Concerning the Treatment of Typhoid Fever," by D W Gaddie, Hodgenville, "Brain Surgery," by W C Dugan, Louisville, "The Prevalence of Errors in Refraction," by A G Blincoe, Bardstown, "Diphtheria, with a Few Notes on Cases in Point," by D C Bowen, Nolin; "Lavage of the Stomach," by J T Green, Leitchfield, "Indigestion," by F A Barnett, Lebanon Junction

Philadelphia Neurological Society —At the last meeting, Dr H C Wood exhibited two cases of myopathy, which seemed to have exerted itself on several members of the same family The woman was of middle age, the muscles of arms seeming to be of normal rotundity, but with tender spots in certain areas Areas of anesthesia also existed in various portions of the body, in both cases In the man, the patellar reflexes were mostly exaggerated and ankle clonus was marked In both cases the gait was awkward, almost causing the patient to fall Dr Wood thought that beside the usual lesions found in these cases, the posterior root zones were also involved Dr John K Mitchell presented an interesting case, the diagnosis of which was obscure A lad, about 17 years of age, gave a history of recurring attacks of paralysis with anesthesia, involving the extremities and entire body from the neck downward During the attacks the muscles presented the reaction of degeneration In certain attacks, premonitory systems frequently exhibited themselves, such as burning of the toes or other vague symptoms, and on the following morning total paralysis would come on This paralysis would last for a day or two and gradually subside until not a trace of the disease remained No positive diagnosis was made Dr Mellus of Johns Hopkins was present and read a paper on "The Motor Tracts in the Brain and Spinal Cord" The paper was based on experiments upon monkeys, in which portions of the brain had been removed from the so called motor areas and the degeneration had been subsequently studied from the pathologic changes produced The pathologic lesions were illustrated by lantern slides

Southern Medical College Association —This association met at Memphis, Tenn, December 5, prior to the meeting of the Southern Surgical and Gynecological Association, and after considerable discussion, it was decided to increase the course of study from three to four years It is well known that the question of making the course four years instead of three has been before the association for two years, but it has been passed from time to time, in order that so radical a move might be fully discussed by all the faculties that are to be affected Dr Sinclair of Memphis presented the matter first at the meeting of the association in Atlanta, and since then from time to time it has been discussed frequently among each of the faculties in the association At the meeting, only two of the thirteen colleges in the association failed to send representatives to the conference On account of the change to the four year course, it was necessary to introduce a number of amendments to the Constitution and By-laws of the Association, but none of them was passed, because it is the rule that such amendments shall lie over for one year This is for the purpose of giving the delegates an opportunity to present plans for whatever changes are contemplated in their respective faculties before final action is taken The delegates present were Drs S S Crockett, of the University of Nashville, W E B Davis, of the Birmingham Medical College, Christopher Thompkins of the Virginia Medical College at Richmond, Ernest S Lewis, of Tulane University, New Orleans G C Savage, and Richard Douglas, of the Medical Department of Vanderbilt University of Nashville, T H Wood, of the University of Tennessee, at Nashville, Campbell of the Tennessee Medical College, at Knoxville G A Ketchum, of the Alabama Medical College of Mobile, and A G Sinclair, of the Memphis Medical College The University of the South was to have been represented by Dr J S Cain of Nashville, but he sent a proxy in the person of Dr Savage The only two colleges in the association not represented were the Texas Medical College of Galveston and the Southern Medical College of Atlanta The other absentee from the list of thirteen was the Bessemer Medical College of Bessemer, Ala, and it is no longer in existence

Washington Medical Society —At the regular weekly meeting of this society, held November 23, the death of Dr C M Hammett was announced, and on motion, a committee of three was appointed by the president to draw suitable resolutions and report at the next weekly meeting

Dr D S Lamb presented a number of pathologic specimens, including hydrocephalus in a calf, a meningocele an anencephalic fetus, and a specimen showing an arrest in the development in twins

Dr PHILIP S ROYE read the essay of the evening entitled "Diagnosis of Tubercular Meningitis in Children" He said the disease was generally characterized by severe headache, vomiting constipation, under three years drowsiness while in older children the mind remained clear drowsiness appearing later Contraction of head and tenderness in cervical region and sometimes pain in chest—taches cerebrales and cry are not pathognomonic As a rule the temperature is low, and the pulse rapid, the temperature curve is irregular, differing materially from that in typhoid The history of tubercular lesions elsewhere and tubercular parentage are important factors in diagnosis

Dr Acker, in discussion, referred to two cases of tubercular meningitis which occurred in his practice in the Children's Hospital of this city, and which he had reported at the last meeting of the American Pediatric Society The first case presented a tubercular history and was rachitic and suffered from retracted head, apathy, screaming, and had irregular pulse and temperature The second case gave a history of adenitis and keratitis, and suffered from vomiting, apathy, irregular pulse and temperature and violent headache, both these cases recovered He quoted Dr Jacobi as saying that he knew of one case, which he thought to be tubercular meningitis, which recovered, but had known of no others, the doubt in diagnosis being the recovery Dr Jacobi says the diagnosis was based 1, on the reaction to tuberculin, 2, examination of eyes, which would present characteristic appearance of choroid coat Post basic meningitis gives the same symptoms and lumbar puncture is the only means of diagnosis In tubercular meningitis the diplococcus is found He said that Dr Northrup gives as diagnostic in infants persistent vomiting, apathy, irregular pulse and respiration The Doctor said he based the diagnosis on previous history, persistent vomiting local spasm (head drawn to side or back) and hereditary history Low temperature is frequent He said all these symptoms may be present in a case and the postmortem would sometimes fail to show the presence of tubercle

Dr Lochboehler referred to a case in his practice in which there were no spasm or rigidity The temperature ranged between 100 and 106, but was normal for six days The pulse was feeble and ranged from 140 upward

Dr S S Adams said that diagnosis depends on the stage of disease and age of the child It may be confounded with typhoid, and the diagnosis is impossible in the earlier stage of irritation, but easy when irritation is at its height, because the temperature is then low In all other diseases of advanced cerebral irritation, the temperature is high

Dr W W Johnston mentioned a case in which lumbar puncture afforded great relief for twenty four hours

NECROLOGY

Ellis G Armstrong, M D, Flora, Ind, November 23 —— W H Baker, M D, Lynchburg, Va, November 27 —— Charles M G Brant, M D, Omaha, Neb, November 25 —— Edwin Carson, M D, San Diego, Cal, November 24, aged 40 years ——George Coryell, M D, Riverside, Ill, November 28, aged 89 years ——Albert J Phillips, M D, Baltimore, Md, November 24, aged 43 years ——Thomas W Simmonds, M D, Martinsville, Va, November 21, aged 38 years ——F H Van Valzan, M D, Spring Mills, Pa, November 26, aged 60 years

James Alexander Moore, M D, Bellevue, New York City, 1883, died at his home in Helena, Mont, November 29 He was a son of the late William Moore of St Croix, Danish West Indies

MISCELLANY

Carcinoma Hardened With Formalin —Bayer urges further tests with his method of destroying the vitality of a carcinoma with injections of formalin, transforming it into a dead, removable mass —*Die Aerztl Praxis*

Peculiar Stainable Bodies in Syphilitic Products —F Winkler announces the discovery of regular spherical bodies in the various lesions of syphilis (gumma, condyloma, sclerosis, lymph gland, etc, and even in the sperm of syphilitics) never found in any other disease They have each an eccentric light spot Unna has been studying them with him and both agree that they are neither blastomycetes, nor hyaline products, but a peculiar, hitherto undescribed product of syphilis, of strikingly regular structure, which deserve a special place in histopathology They stain with thiodin or toluidin blue and decolor with formalin, or they can be stained with polychromic methylene blue and decolored with iodized alcohol or the glycerin ether mixture They are more prominent if the tissue is stained with orange or eosin —*Munich Med Woch*, November 8

Perforating Ulcer of the Mouth —Letulle of Lille has reported an instance of this rare condition in a male, aged 50 years, an alleged alcoholic subject, who presented fairly well marked symptoms of tabes The teeth in the left half of the lower jaw were all wanting except the central incisor, those on the right side being healthy In the upper jaw there were only three teeth left, and apart from the persisting teeth the alveolar border was atrophied, on the right side of the upper jaw there was a cavity involving the alveolar border and the hard palate, opening like a cone into the middle meatus of the nose The mucous membrane lining it was pale, thickened, but not ulcerated, its sensibility was much impaired The patient was not aware of this condition, but on being questioned he said that liquid food had for five months come through the right nostril This lesion is rare, Baudet has collected eight cases chiefly on the subject of tabes It may be unilateral or bilateral, but always occurs in the same situation As to the explanation of the lesion, there are two views that of Galippe, that it is the result of alveolar pyorrhea aggravated by tabes, and that of Baudet, that it is an atrophic tabetic lesion due to the fifth nerve being affected, which begins by loss of the teeth and atrophy of the jaws, and sometimes terminates by ulceration and perforation into the antrum The decision between these theories must be left to the future, but probably a combination of the two would be most satisfactory At present only one case has been examined after death, and that very incompletely —*British Medical Journal*

Normal Urology of Childhood —Bezy reported the results of investigations by Carron, Monfet and Thadée which establish the following standard for the urology of children past infancy For each kilogram of the child, and in twenty-four hours, the volume of urine excreted is 30 to 38 c c, which is one and a half to two times that of an adult, total amount of nitrogen, 30 to 33 c c, while that of the adult is 28 c c The elimination of urea varies from 88 to 90 per cent, the amount of uric acid from 9 to 10 millimeters, in the adult it is 8 millimeters The amount of phosphoric acid is 77 millimeters, according to Thadée, and 67 according to the others It decreases with age —*French Cong of Gyn and Pediatry*

Bronchitis —Scheppegrell (*N Y Med Jour*, December 3) considers abnormal nasal respiration the most frequent cause of bronchitis, and one commonly overlooked As the most prominent conditions which interfere with or prevent normal nasal respiration, he enumerates 1, Total absence of nasal respiration, 2, partial interference with this function, 3, lowering or loss of the normal nasal function in respiration, 4, pathologic processes in the nasal chambers by which the inspired air may be vitiated

The Lymph —L Asher concludes a study of the lymph in the *Deutsche Med Woch* of November 17, with the statement that the lymph glands are for the purpose of transforming the partially injurious products of metabolism originating in the work of the organs, into substances that can be utilized over again, and consequently the term "lymph" should be restricted henceforth, as the fluid entering the glands differs so essentially from the fluid that emerges He has also experimentally established that the fluids of the serous cavities, synoviæ, etc, differ from actual lymph The morphologic indications of increased glandular activity in the vicinity of pathologic foci with increased substance destruction, seem from this standpoint merely the quantitative increase of a mechanism already at work in the organism

Malarial Fevers on Pacific Coast —In the *N Y Med Jour* for December 3, Perry presents results of some observations on this subject, with tables and map showing the regions in which malarial fever prevals He finds that only the milder forms prevail, nearly always the tertian, occasionally the quartan, but rarely the aestivo autumnal variety In Washington they prevail only along one or two rivers in the Puget Sound Basin, the Columbia River Valley, Chehalis Valley, Yakima Valley, with an occasional case in the Columbia River Valley of the northeastern part of the State The disease, in Oregon, is found only in the Columbia River Valley, Willamette Valley, Rogue River Valley, Umatilla Valley, with a few cases in the Columbia lowlands of Gilliam County In California's Sacramento Valley, San Joaquin Valley, Tulare Basin and Kern Valley, with an occasional case in the Santa Clara Valley, the disease occurs

Bilateral Resection of the Pneumogastric —Prof J Pavloff has several animals on exhibition in which the vagus was cut on both sides, six to seven months ago The only disturbance seems to be in the digestive function There has been no pulmonary edema or pneumonia, as the animals were not allowed to get any food into the trachea or bronchi —*Munich Med Woch* , November 15

Cherry Stone in the Eustachian Tube —G Trautmann reports a case of severe chronic, suppurating otitis media, with perforation, in which syringing with tepid water dislodged and expelled a cherry stone in the Eustachian tube the cause of the ascending suppuration As the patient spat it out of his mouth at the third syringeful, he observed that "his head was all free again" and all the lesions healed promptly There was nothing to indicate its presence, but all efforts to cure the otitis would have been fruitless if it had not been discovered —*Munich Med Woch* , November 22

Carbolic Acid in the Eye —Dr Ray of Louisville reports a medico legal case of interest, in which a medical friend of his, practicing in central Kentuky, was concerned Dr A was accused of accidentally dropping carbolic acid in the eyes of a new born infant suffering with ophthalmia neonatorum He was sued for damages, and Dr Ray was asked to testify on the witness stand The circumstances were these A child suffering with ophthalmia neonatorum had been ordered a solution of nitrate of silver and the nurse in attendance placed the bottle on the mantel, and along beside it she also placed a bottle of carbolic acid which had been used in disinfecting the vessels around the lying-in chamber The Doctor was unaware of the fact that there was any carbolic acid in the house He came in one evening about dark to see the child, and it was apparently doing very well in about the second week of a purulent ophthalmia involving both eyes He had the nurse take the child in her lap near the window, and he walked to the mantel and took up the bottle which was in the place he had been in the habit of finding the bottle of nitrate of silver solution, then took a medicine dropper and drew a few drops of the fluid into it and sat down to cleanse the eyes preparatory to dropping into them the solution As usually happens, the lids were very much swollen, and in getting them open they became everted, so it was difficult for him to expose the cornea With the lids everted in this way he dropped a drop of carbolic acid upon the exposed conjunctiva He stated on the witness stand, however, that he was unable to see the cornea, and that the carbolic acid only came in contact with the under surface of the lid It ran down the side of the face over the lid and produced a little white discoloration characteristic of carbolic acid burning, and he immediately thought something was wrong The child cried very hard, and he asked the nurse what the liquid was She said it was the medicine he had placed upon the mantel He went again to the mantel and found the bottle of nitrate of silver solution there untouched, and also found that he had used carbolic acid instead He immediately washed the eye as thoroughly as possible and applied some vaselin The child recovered with a large central leucoma, and the doctor was sued for $5000 damages Asked if he ever used carbolic acid about the eye, Dr Ray told them he did Asked if he ever used chemically pure carbolic acid, he replied that he had done so a number of times, that he frequently applied pure carbolic acid to corneal ulcerations with a probe wrapped with absorbent cotton Asked what he thought would be the effect of carbolic acid upon the cornea, he stated that it would be superficial, that the effect of pure carbolic acid to the healthy cornea would be to simply erode the epithelium The Doctor was mulcted for $350 Dr R does not believe that pure carbolic acid will produce a perforation of the cornea, it will destroy the epithelial layer, but that will be all But in an eye the seat of ophthalmia neonatorum, the disease itself, in connection with the erosive effect of carbolic acid, might result in perforation of the cornea It is well known to all that under the most approved methods of treatment a great many eyes are lost from ophthalmia neonatorum —*American Practitioner*, October 15

Ginseng in Korea —Dr Horace Allen, the United States Minister at Séoul, states that the Korean ginseng can not be regarded as inert, however correct the opinion may be of those medical writers who have reported the American root has no therapeutic power The root is the panacea for most of the ills of the Chinese and Koreans, and has held this reputation for centuries It is regarded by these people as a strong aphrodisiac Quinin has been shown to be so much more efficacious in the frequent malarial fevers of these countries that ginseng has lost some of its popularity in these cases, but wherever a tonic or a "heating medicine" is needed, ginseng continues to be resorted to, and by combination with quinin its reputation will be enhanced rather than diminished It is supposed to owe its great popularity in China to its properties as an aphrodisiac The district where much of the Korean root is grown is hilly or mountainous The climate is much the same as that of the northern portions of our Central States, except that here there is a distinct rainy season, some forty inches of rain falling during July and August It is possible that our summers may be too dry for the successful cultivation of this plant Michigan would probably be the best place for making an attempt at the cultivation Wild ginseng is supposed in Korea to possess almost magic properties Such roots are usually kept for the royal family The cultivated ginseng requires seven years to mature It is raised in little plots of richly manured soil, well mixed with leaf mold The beds are carefully covered by mats or other protection, raised sufficiently to allow of cultivation and of the free access of air, and care must be given to keep the plants moist and free from weeds As there seems to be almost unlimited demand for this root in China, it might as well be produced, in all its excellence, in the United States if possible The American and Korean ginsang roots differ in appearance, the American seems to be made up largely of fibrous roots called "beard," while the Korean root is more compact The two are given different names by botanists The Chinese plant is called *[illegible] schinseng*, while the American is called *Aralia quinquefolia* There is by some believed to be a difference in the effect produced by the use of these two roots There is no market for the powdered root the Chinaman who pays from a half dollar to $100 for an ounce of ginseng wants all his money's worth The powder might be made of any similar root of no value Ginseng, like wine, increases in value with age The best ginseng has been growing for 100 to 200 years The Korean ginseng is supposed to arrive at perfection after thirty years although it is used after six years This is one of the [illegible] why gi[illegible] so high [illegible] I take it for granted [illegible] the

American ginseng is wild, and so may be of any age, even more than a century old The age is told by counting the rings on the center and side roots, or those parts resembling the torso and arms Dr Chung King-u, Imperial Medical College of Tientsin, resident surgeon of the Tung Wa Hospital at Hong kong, the *only hospital in China which is devoted to Chinese* medical practice, but which is under the supervision of a Chinese physician versed in western medicine, states that in his experience he has failed to observe any definite results obtained by the use of ginseng Its use among the Chinese is entirely empiric, and its efficacy depends upon the imagination of the patient

Malt Combinations —The diet of the adult human is, and must be, largely made up of carbohydrates, whose place of preparation into assimilable forms is in the small intestine It is perhaps too much to say that a majority of the cases of so called dyspepsia are in reality that of impaired or deficient intestinal digestion If the food has been well masticated, and if the stomach is able to carry on its motor function and then to empty its contents into the duodenum, and if indigestion then occurs, the source of the trouble, in a majority of cases, will be found to be in the small intestine Of all the diffusible enzymes, the special function of which is to convert starch into dextrin and later into maltose, diastase is one of the most efficient This ferment, or one having exactly the same action, is a very essential part of the pancreatic juice, and under favorable conditions it is able to convert many thousand times its own weight of starch into dextrin Diastase is a soluble albuminoid enzyme germinated from the gluten or cereals at the time of sprouting Vegetable diastase, ptyalin and pancreatic diastase all act in exactly the same way, being capable of acting upon cooked starch with great rapidity The essential factor which assures this rapidity of action is that the diastase shall be present in large quantity, when the relative proportion of the enzyme is large in comparison with the amount of starch the tranformation goes on rapidly and the action continues for a long time Since a large part of the digestive work is done in the small intestine, and since the ferment called pancreatic diastase or amylopsin has consigned to it the digestion of all the starchy food which is contained in the diet, since the action of pancreatic diastase and of vegetable or malt diastase is so identic as to be incapable of distinction, it is no wonder that the preparations of malt diastase have come into general use in the treatment of all the varied forms of indigestion The preparation of vegetable diastase known as "maltzyme" has come into general use among physicians, and the fact that it has received the patronage and endorsement of medical men all over the country, is proof positive that the preparation is strong in diastatic power Maltzyme is not alone efficient in digestive power, but it is also pleasing and palatable, and furnishes an ideal vehicle for the administration of the other remedies with which it has been combined—cod liver oil, cascara and the hypophosphites Maltzyme preparations are nutritive as well as highly diastatic, because they contain predigested carbohydrates and nitrogenous material combined with the phosphates of the grain It is highly important that all who practice medicine should recognize the value of the best preparations of malt, for it is often necessary, while giving treatment to separate organs, that the physician should give special attention to the digestive organs and processes, or else he will find his results unsatisfactory —*Jour of Med and Sci*, September

A Quinquennial Census Necessary —Dr E W Hope of Liverpool objects to the official estimate of population in his city, as based upon the regular decennial census He has been a careful student of the subject for many years, and it is his belief that a material underestimation of his city's growth has resulted from "the rule of thumb" measures and methods that obtain in official circles He says that during recent years reasons have been growing stronger for calling into question the correctness of the results of the method adopted by the registrar general for estimating the population of the city. The method, it will be remembered, is based upon the assumption that the rate of change (increase or decrease) in the various districts of the city which took place year by year during the intercensal period ending in 1801 has continued since The registrar general estimates that the population has increased from 629,443 in 1891 to 633,645 in 1898, i e, the total population of greater Liverpool has increased by 600 every year, making a total increase during the seven years of 5200 The reasons for believing that this estimate is very much below what the population actually is may be summarized in the following manner The natural increase of the population, viz, the increase in the number of births over deaths since the census of 1891, exceeds 40,000 The increase in the number of registered voters since the last census exceeds 26,000 The increase in the number of houses built over those which have been demolished since the last census is close upon 3500 The increase in the number of inhabited houses since the last census was found, by police inquiry early in the year, to be upward of 14,400, making a liberal deduction of 5 per cent for a possible margin of error, leaves an increase of 13 620 Each of these facts suggests strongly that the actual increase has been greater than the estimated increase Clearly, what is wanted is a more frequent census for the whole country, certainly not less frequently than every five years It is singular that the registrar general is satisfied week after week and year after year to publish, under the imprimatur of his office, figures which everyone conversant with the subject must hesitate to accept as correct No word of explanation, no word of warning, no comment is issued with these returns, cities and districts are strung together for comparison, with egregiously misleading results, and with consequences which tend to cripple and retard sanitation No doubt a quinquennial census would go far to correct these mistakes, and tend not only to prevent the waste of time involved by the compilation and issue of fictitious returns, but also to put an end to the mischief which such returns give rise to But, pending such a census, it is unsatisfactory to find that the registrar general regards the subject as of so little importance as to decline to discuss it, preferring to leave the matter for his successor to deal with The decennial census was inaugurated one hundred years ago, and the benefits afforded by it now require to be supplemented by a quinquennial one At the meeting of the Section of State Medicine of the British Medical Association in Edinburgh, July 27, 1898, a resolution was unanimously passed to the effect that it was absolutely essential that a qinquennial census of the whole country should be taken in order to ensure accuracy in statistics relating to the public health In Germany a five year census is taken, and in Japan the register of the population of each sub-district is corrected annually by the addition of infants born or of persons domiciled in the district, and by the removal of persons dying or leaving the district —*Public Health*, October

The Teaching of Anatomy —The teaching of anatomy at Columbia University has reached the differentiation stage of progress A new curriculum has been adopted, in such a manner that the topics will be distributed in a two year course in human anatomy, and the students may be distinguished as being either of the elementary or the advanced classes Dr G S Huntington of the College of Physicians and Surgeons, who has labored early and late to bring about this improvement in his branch, has published his views of the probable results of the new teaching, in *Bulletin* XX, of the Columbia University He says that the new plan has enabled his school to solve a part of the problems of the intelligent education of his pupils in as nearly a satisfactory manner as seems now to be possible.

The first year student does not attend any lectures in anatomy. During this year the instruction consists in practical demonstrations to small sections of the class, dealing with the entire anatomy of the extremities and with the bones, joints, muscles and blood vessels of the head and neck, including also part of the peripheral nervous system of this region. In direct connection with the demonstrations, extensive practical work in the dissecting room is required. The first year student also attends a series of demonstrations constituting the preliminary visceral course, designed to afford that general information regarding the body cavities and their contents which is requisite to the correct appreciation of the concurrent instruction offered by the departments of physiology and histology. In the second year the laboratory work continuing, the student attends demonstrations to sections of the class in the anatomy of the central nervous system, organs of special sense and cranial nerves. The entire second year class attends three lectures a week on the anatomy of the body cavities and viscera. The preparations illustrating these lectures are, in the afternoon of the lecture days, demonstrated again separately to sections of the class, enabling each student to study and inspect the same closely. In this way an opportunity is given to make the anatomic lecture what it should strive to be, not an attempt to teach anatomy at long range to several hundred men at once, but an occasion for presenting the broad morphologic principles upon which the animal organs, apparatus and symptoms are constructed. Here the significance and importance of the structural peculiarities of the man can be accentuated, illustrated, and explained in all their bearings by contrast with the corresponding structures of the lower vertebrates. It is quite evident that the institution must command the requisite material for illustration in order to carry out a liberal plan of instruction in general morphology. The progress of the last eight years in this respect has been gratifying. The morphologic museum began its development in 189[illegible] in one of the small rooms in the cellar of the south wing. Columbia today possesses an equipment which, while it still falls short of the ultimate design, yet is unequalled in the beauty and clearness of the preparations, and in the complete character of the series most extensively used in the courses of instruction. The first and second floors of the new anatomic building are designed to be the permanent home of the museum, and provide ample floor and gallery space. It is the confident hope of the department that here the future growth of the collection will be as rapid and healthy as it has been in the past under less favorable surroundings. Unfortunately, however, it was found necessary at the time the anatomic building was erected to [illegible] the equipment, and the department is today [illegible] urgent need of cases for the two floors. The old cases [illegible] from the [illegible] museum are [illegible] and [illegible] be used [illegible] for storage. The museum [illegible] important [illegible] features in [illegible] possession [illegible] present [illegible] to carry out [illegible] student.

Surgical Scenes [illegible] —Dr. [illegible] [illegible] Turkey, [illegible] experiences [illegible] When I [illegible] Sunday, [illegible] [illegible] the results of [illegible] made for the [illegible] the wounds [illegible] together with [illegible] and [illegible] from [illegible] thing that could be thought of in this land on the part either of the people or the authorities as to make one recall the blessings of civilization and Christianity. A week after the fight there came to me a messenger from [illegible], requesting me to see the wounded. Not a physician or surgeon had been sent by the Government to look after the suffering. In this country there are no physicians except in the cities, so that the region for a distance of ninety miles is a blank, so far as medical service is concerned. Before I could go I must have the permission of the Government officials and must be sent back and forth before this could be secured, inasmuch as [illegible] is not under our own governor, and so it was eleven days after the battle when I reached there. I found then that a Turkish physician had reached there shortly before me, but he knew nothing of surgery, had no antiseptics with him, and the wounds were, of course, all in a horribly septic condition. Many of them had had no change of dressing for several days, and these, too, compound and comminuted fractures of large bones. The village dressing in such cases oftentimes consists of fresh manure applied with the idea of reducing inflammation. In the case of the father of a poor family of six children, on whose account more than of any other one person I had been begged to come, lockjaw had already set in, and he died soon after. The Turkish physician had no idea of drainage for these deep discharging wounds, having plugged them all with pieces of twisted wicking, the universal method of "drainage" in this country. I used up three yards of drainage tubing in dressing seventeen cases. I left a supply of antiseptics and of directions with the man who does the local "doctoring" of the place, and so came away feeling that my visit would not be wholly in vain. The whole incident is preeminently Turkish. The change of the seat of government for the sake of self-interest of officials, the element of bribery in the case, the foolish opposition of the people, their persuasion that force would not be used against them, the encouragement to that belief from the long dallying of the authorities, the final result ten times more bloody than was needed, the neglect of the suffering and carelessness for their welfare, and the ignorance of the official government physician who came [illegible] to make a report on the [illegible] of the dead than to care for the living—all these are just what one could expect in Turkey.—*The Evangelist.*

Medical Inspector for the Army.—[illegible] writing, to the officer commanding the military department, corps, division or camp, calling his attention to the facts, and recommending such measures as you consider necessary for the relief of insanitary conditions existing A duplicate of such report should be forwarded to the Surgeon General of the army You will ascertain whether medical supplies are properly used and with due regard to economy, whether any additional articles not now included in our supply tables are necessary for the treatment of the sick, whether the equipment of regimental hospitals is such as is contemplated by recent orders, whether cases of infectious diseases or of soldiers seriously ill are improperly retained in regimental hospitals, whether division hospitals are fully equipped as regards supplies, medical officers and attendants to properly care for the sick of the command to which they belong, and whether contract surgeons have been examined as prescribed by recent orders You will give especial attention to diet kitchens, and see that they are equipped for providing the sick with suitable light diet You will ascertain whether a proper use is made of the fund provided for the purchase of suitable articles of diet for the sick, as prescribed in General Orders No 116, and whether the commissary department has on hand for sale such articles as are necessary You will also inquire as to the sufficiency of tents, ambulances, and other articles furnished by the quartermaster's department You will report any abuses or deficiencies existing to the commanding general of the department, corps, division, camp or military post, sending a duplicate of this report to the Surgeon General of the army You will also report upon the professional competence, attention to duty, and general qualifications of medical officers, calling the attention of the Surgeon General to those who deserve especial commendation, and also to those who are considered incompetent, or for any reason undesirable members of the medical department You should give special attention to the efficiency of the hospital corps, reporting whether proper discipline is maintained and proper instruction given in all that pertains to the duties of enlisted men of that corps

Not Synonymous —According to a judge of the court of the State of Rhode Island and Providence Plantations, medicine, in the popular sense, is a remedial substance The practice of medicine, as ordinarily or popularly understood, has relation to the art of preventing, curing or alleviating disease or pain It rests largely in the sciences of anatomy, physiology and hygiene It requires a knowledge of disease, its origin, its anatomic and physiologic features, and its causative relations, and further, it requires a knowledge of drugs, their preparation and action Popularly, it consists in the discovery of the cause and nature of disease and the administration of remedies or the prescribing of treatment therefor This all assumes importance when the supreme court of Rhode Island says, in the case of State vs Mylod, July 18, 1898, that, in the construction of penal statutes, a well established rule is that words and phrases must be taken in their ordinary acceptation and popular meaning, unless a contrary intent appears, and that the words "practice of medicine" must be taken in this, their ordinary or popular meaning, in determining whether a statute regulating same is violated by certain acts of a Christian scientist, for example Its conclusion is that prayer for those suffering from disease, or words of encouragement, or the teaching that disease will disappear and physical perfection be attained as a result of prayer, or that humanity will be brought into harmony with God by right thinking and a fixed determination to look on the bright side of life, does not constitute the practice of medicine in the popular sense nor, therefore, violate the statute referred to And the court does not think that because the statute applies not only to those who actually practice, but also to those who announce in any way a readiness to practice, that the legislature intended to give a broader than the generally accepted meaning to the words "practice of medicine" The most that it thinks can be claimed for this feature of the statute is that it operates to broaden the offense created by the statute so that the attempt or the announcement of a readiness to practice medicine becomes equivalent to the actual practice Furthermore, a recognition by the statute of the existence among medical men of differences regarding the treatment of disease, while certain diseases are treated by the "regular school" without the use of drugs, the court maintains, does not broaden the meaning of the words "practice of medicine" to include the practice of that which, in the popular sense, is not a practice of medicine To give to the words "practice of medicine" the construction claimed for them, it also suggests, would lead to unintended results, because, if the practice of Christian Science is the practice of medicine, Christian Science is a school or system of medicine, and is entitled to recognition by the State board of health to the same extent as other schools or systems of medicine, as, under the statute under consideration, the board has no arbitrary power, and can only determine whether the applicant possesses the statutory qualification to practice in accordance with the recognized theories of a particular school or system To protect the public, not from theories, but from the acts of incompetent persons, the court goes on to say, the legislature has prescribed the qualifications of those who may be entitled to perform the important duties of medical practitioners The statute is not for the purpose of compelling persons suffering from disease to resort to remedies, but is designed to secure to those desiring remedies competent physicians to prepare and administer them Nor does it, in terms, prohibit the use of the word "doctor" by any person, whatever his business or profession may be The assumption of that title by a Christian scientist is not unlawful, and the use of the word is entirely immaterial in any case, unless under such conditions or circumstances, or in such connection, that it may serve as an announcement or indication of a readiness to engage in the practice of medicine or surgery

Necessity of Intestinal Bacteria —Schottelius recently raised some chickens from the egg in absolutely aseptic conditions with the result that the fowls did not thrive like the control-chickens, but gradually dwindled away and died by the seventeenth day —*Munich Med Woch*, No 36

Physicians' Strike —The difficulties between the profession and the "sickness insurance associations" in Germany culminated recently in a definite "strike" on the part of the medical men in two German cities The strike at Barmen resulted in favor of the physicians, as a satisfactory compromise was effected, but at Remscheid the organization won the day, bringing in outsiders to fill the vacancy, although with the result of the founding of a new association with the former medical attendants These associations to provide medical attendance in case of illness, are for the benefit of the laboring classes, and are mostly managed by working men or small trades people, who assert their mastery over the physicians who contract to attend to their sick, by appointing and dismissing them at pleasure, a system which leads to many abuses It has been abolished in some places where the association makes a contract with some local medical society, any members of which can be summoned to their sick at contract rates

Red Ant Pest at Albany —Taken individually, the small red ant (*Monomorium pharannis*) is not difficult of extinction A well planted foot will terminate the existence of the hardiest specimen Taken en masse, however, he prospers exceedingly, even under adverse conditions, and his multiplication is fairly logarithmic for speed Pouring boiling water, benzin or kerosene emulsion upon his domicile, if it can be found, tends to discourage him The difficulty is to track him to his lair Old and rotting woodwork is a favorite abode of his, and the old-fashioned wooden sidewalk forms a roof of easy exit for populous ant cities It is unlikely that the Albany correspondent will be troubled further this year by the small red pests If he will start in early next summer and trail home the first red ant he sees about the house, he will probably be able, by a liberal use of the hot water boiler, to free his own immediate vicinity from the industrious and pervasive insects —*New York Sun*

Gleanings —The *Bulletin de la Soc de Pharmacie* states that bismuth salicylate should be rejected on account of its uncertainty and impurities, and the subnitrate used or, better still, the "cream of bismuth," the hydrate of bismuth oxid Orthoform is warmly recommended for cracked nipples Besides its analgesic action it is siccative and antiseptic, healing the cracks in a few days Nitrate of silver crayons are found more effective than the solution, for buboes, panaris, etc A crayon 2 to 4 mm in length, inserted and left, will rapidly cure the lesion without too much caustic action (*Semaine Méd* , November 16) Netter ascribes to the sterilization a case of infantile scorbutus in a child fed exclusively with home Soxhlet sterilized milk from a well directed dairy In 103 observations there were only 11 in which similar conditions prevailed In 29, the milk was bought ready sterilized The rest used various preparations (*Bull des Hôp* , November 10) Birth of twins with eleven days interval between them (*Lyons Méd*) Wolfe reports the case of a healthy woman who never menstruated, but when 45 years of age was much frightened by an insane girl, commenced to menstruate the same day, and eight months later conceived and bore a healthy child (*Lancet*, August) Schultze adds another to the eight cases on record of echinococcus ovarii, not diagnosed before operating, patient recovered a year later Non closure of the foramen ovale forming almost entire absence of septum in patient of 42 years, and in another of 62 (*Deutsche Med Woch* , November 17) Lechner describes the case of a student who can make one eye go through the motions of abduction and adduction, while the other is fastened on a fixed spot, without varying the accommodation It confirms Herring's law in regard to the associated innervation of the ocular muscles (*Graefe's Archiv* , No 3) Professor Hayem's new clinic at the Saint Antoine is arranged so that it can be darkened at a moment's notice, for radiographic work, projections of microscopic preparations, etc Two cases of tubo abdominal wall fistulas are reported, through which menstruation occurred during the period, showing the bloody discharge in the tubes as in the uterus (*Cbl f Gyn* , No 45) Rose recommends a wedge shaped excision of the tubes from the uterus to protect against subsequent gonorrheal infection of the peritoneum or to insure sterility Case of fatal intoxication from injection of gray oil (*Berlin Klin Woch* , No 46) Case of noma after scarlet fever, with congenital syphilis, cured with potassium iodid (*Deutsche Med Woch* , 46) Three cases of aneurysm of the mitral valve, observed by Drasche Peculiar musical sounds noted Small chronic aneurysms of this kind sometimes heal spontaneously (*Vienna Klin Woch* , 45) Case of myxedema in woman of 47 years, progressing for years, completely cured with thyroid tablets According to the *Munich Med Woch* of November 22, Finsen's "Light Institute" at Copenhagen (vide JOURNAL, page 303) is richly endowed, and the daughters of the best families volunteer their services as attendants His treatment of lupus with concentrated electric light is proving very successful Unfavorable influence of kidney troubles on the course of an infective disease is confirmed anew by a fatal case of measles in a patient with nephritis (*Vienna Klin Rund* , 47) Naughebauer reports a case of extra uterine pregnancy nearly at term, living child extracted through the abdomen, mother recovered placenta implanted in the cavum vesico uterine (*Vienna Klin Rund* , 47) Sudnik has found the "high frequency" current very valuable in reducing an intracaracoid luxation of the shoulder Besides its anesthetic effect it acts directly upon traumatic contractions (*Journal d' Hygiene*, Nov 17)

Old Plantation Malady —Doctor Your wife must have chicken broth three times a day, and you must give her a spoonful of this medicine every hour during the night Mr Jackson (dubiously) Wa al, doctah, I doan' see how yo' specks me too pervide her wif de chicken broff and gib her dat medicine at de same time —*Factotum*

Washington

HEALTH OF THE DISTRICT —The report of Health Officer Woodward, for the week ended December 3, shows the total number of deaths to have been 117, of which 69 were white and 48 colored The principal causes of death were consumption, diphtheria, nervous diseases, heart diseases, diseases of the kidney, pneumonia, scarlet fever and typhoid fever At the close of the week there were 123 cases each of diphtheria and scarlet fever under treatment

NEW MUNICIPAL HOSPITAL —Senator McMillan has introduced a bill in the Senate which provides for the building of a new municipal hospital, in which shall be treated the patients now cared for in the Columbia, Freedman and Almshouse Hospitals The bill directs the trustees of the Columbia Hospital to sell that property and hand the proceeds into the United States Treasury Department It further provides for an appropriation of $200,000 for the purchase of a site for the proposed hospital, and a further sum of $50,000 to begin the erection of buildings, which may, when completed, cost $200,000

CENTRAL DISPENSARY AND EMERGENCY HOSPITAL —The monthly meeting of the attending staff was held December 3, to receive the report for the month of November, which was as follows Number of new cases, 566, number of ward patients, 81, number of emergency cases, 362, number of redressings, 188, number of prescriptions, 2989, number of deaths, 7, number of postmortems, 4 Dr Mohart, assistant resident physician, who has been seriously ill for the past two weeks, is now convalescing and will shortly resume his duties Dr James R Church, the medical hero of the Rough Riders, and formerly a resident physician of the hospital, has successfully passed the examination and been admitted as a surgeon of the regular army Dr Church is a graduate of the Columbian University

Louisville

A RETROSPECT —Dr T B Greenley of Meadow Lawn, Ky , read a very interesting paper before the Filson Club on the 5th inst , entitled, "The Doctors of Long Ago," which was a delightful reminiscence of the physicians of Louisville during a period between 1844 and 1846, during which time Dr Greenley was a student of the University of Louisville Medical Department, and subsequent years The oldest physician in Louisville at that time he said was Dr Hall who in 1797 was elected assessor of the town, which then consisted of not more than 300 inhabitants Another of the pioneer physicians mentioned was Jas C Johnson, the first white male child born in Louisville after its settlement on the banks of the Ohio Dr Greenley is still in active practice, though more than 80 years of age, and has long been an active medical society worker last year attending the meeting of the Kentucky State Medical Society, three local and county medical meetings, the AMERICAN MEDICAL ASSOCIATION in Denver, and the meeting of the International Association of Railway Surgeons at Montreal he being the local surgeon at Meadow Lawn to the Illinois Central R R

APPROPRIATION [illegible] propriation [illegible] in the dispatches [illegible] of [illegible]

Hospital at Louisville For the five internal revenue districts of Kentucky $151,500 is appropriated

OSTEOPATHY —In the case of G N Murphy against the State Board of Health, the injunction granted by Judge Settle preventing the Board from molesting the plaintiff in the practice of his profession, has been made perpetual The State Board of Health has appealed the case, and as it is of such vital importance to the Board, the case has been set for an early hearing This is the case in which the Board sought to revoke the license of Dr Murphy for practicing osteopathy

London

CALCULI AND CANCER —An interesting discussion developed in the Pathological Society, November 18, over the specimens of primary carcinoma of the gall bladder, one shown by Prof Bradford without a calculus present, and one by Dr Hunter with a calculus firmly grasped by the growth Dr Hunter was of the opinion that the presence of gall stones in cancer was simply a coincidence, like a carious tooth in epithelioma of the tongue or lip Dr Voelker took the same view, although they certainly were much more commonly present in carcinomatous gall bladders than in normal ones, the proportion being about 70 and 30 per cent respectively This might easily be accounted for by blocking and derangement of secretions Several others spoke in the same strain The secretary, Dr Rolleston, believed that while much of the coexistence of the two conditions might be ascribed to mere coincidence, it could not all be so explained He cited the recent researches of Zeigler, who found calculi present in 90 per cent in a large number of cases of primary carcinoma he had collected To check this result, he cited some sixteen cases of secondary invasion of the gall bladder, and found stones present in only 20 per cent Acting upon this suggestion Rolleston had searched his own hospital case reports and found five cases of primary cancer, in four of which stones were present, and six cases of secondary invasion in only two of which were calculi found He, therefore, agreed with Zeigler that some important relation actually existed between gall stones and primary carcinoma The president, Dr Payne, thought that cancer of the entire alimentary tract was rapidly increasing in frequency, and the gall bladder was no exception He regarded the relation between it and calculi as extremely uncertain

HARBEN LECTURE —In the last Harben lecture upon "Tuberculosis," Sir Richard Thorne discussed the problem of compulsory notification of phthisis, and, after a careful survey of the field, pronounced definitely against it He regards the case of tuberculosis as far from parallel with that of scarlet fever or diphtheria, and thinks that at present legal interference will do more harm than good, preferring to rely upon educating popular opinion The experience of New York City, he regards as conclusive, inasmuch as the enforcement was extremely partial and only practically among the tenement classes, and secondly, because the marked diminution in the death rate attributed to it was already in progress before the measure was enforced

THE GREEN OYSTER —Professor Herdman, as chairman of the special commission upon the oyster industry, has just made an important report The commission finds that the green color liable to occur in oysters is due to two causes one, as in the celebrated "green oysters" at Marenne on the French coast, so highly prized by epicures, and the bivalves from certain English river mouths, harmless, and due probably to swarms of small vegetable organisms, the other, as in some American oysters and those from Falmouth, and possibly from Colchester, is caused by an excessive deposit of copper and iron in the tissues, and is probably pathologic The copper is deposited from the blood by the leucocytes, both in the tissues and upon the surface of the body, in the form of a basic carbonate The interesting feature of this change is that as copper plays much the same rôle in the blood of molluscs, as iron does in that of mammals, we may here have a deposit of blood salts, such as occurs in chlorosis and pernicious anemia—our human "green sickness," indeed, Herdman described the process as a 'leucocytosis" But, unfortunately, the oyster is not satisfied with the association of harmless micro organisms The commission reported the finding of large numbers of bacilli of the colon group, somo of which gave reactions suggestive of bacillus typhus in the gill cavities and stomach of many samples of oysters None of these oysters, however, had been taken from pure sea water, but as the bivalve has a distinct affinity for sewage bacteria, and a saying of the fisherman is "the muddier the water, the fatter the oyster," so that they are brought farther and farther up the estuary as the time of their marketing approaches, they recommend that active measures be taken to inspect all oyster beds frequently with reference to their possible contamination by sewage There seems a decided probability that the oyster actually collects the bacteria from the water, as its food consists chiefly of vegetable micro organisms, and it fattens rapidly in water containing small amounts of sewage It is not injured by the pathogenic germs and probably would digest them along with the others What we suffer for is our rudeness in interrupting the oyster during digestion

MEDICAL SOCIETY OF LONDON —At the last meeting, the president, Mr Edward Owen, reported a successful gastro enterostomy for pyloric cancer, with the use of the Murphy button The patient was failing rapidly in strength, but since the operation in July last, had gained twenty pounds and was nearly free from pain Mr Battle presented a case of total disappearance of a large sarcoma at the neck and superior mediastinum, under the use of Coley's fluid The President objected to the case going into the Transactions as an instance of cure by this method, as he thought the real nature of the growth uncertain Mr Mansell Moullin congratulated Mr Battle upon reporting the *first authentic case* of cure by Coley's fluid (italics ours) in this country, which in view of his championship of the method and its numerous trials, was rather a surprising statement Mr Waterhouse declared himself very skeptical as to the value of the method and the reliability of some of the reports made upon it He himself had tried it in five cases with no result whatever, except the death of two patients by hyperpyrexia The impression seems to be general that no one else can get such results as Coley reports

---

CHANGE OF ADDRESS

Burns T M , from 925 to 841 So Water Street Denver, Colo
Bradford, H W from Jamaica Plain, Mass , to Wolfboro, N H
Beach, S C from McCook to Ravenna, Neb
Brown Le Roy from Heron to St Paul Park, Minn
Craig, J , from White Sulphur Springs to Columbus Mont
Clark J A M , from Detroit to Cascade Mich
Cutter, J B from Colonial Hotel to Presidio San Francisco, Cal
Durbin L T , from 2430 Stout to 1763 Clarkson, Denver Colo
Dougherty, P , from Los Angeles to 80 So Madison Ave , Pasadena, Cal
Dvorak, W J from 1539 to 1540 W 22d Street Chicago, Ill
Davidson, T W , from Galesburg to Abingdon Ill
Huntington, W D , from Adeline Street to Central Bank Bldg, Oakland Cal
Johnson F W , from 919 to 626 John Street Cincinnati, Ohio
Kennedy, T W from 1024 17th Avenue to 1540 High Street, Denver, Colo
Peery M E from Pittsfield to Carthage Ill
Ross C H from Summerfield Kan to Upland Neb
Raub J I from 319 B St S E to 421 B St N E , Washington, D C
Scheiber 146 N Clark to 298 E Division Chicago Ill
Sauer F N from Racine to 320 Chestnut Street Milwaukee, Wis
Stokes, W B from Coldwater to Farmington, Ky
Yolton, J L & R , from Eddy Bldg to 208 E Jefferson Street Bloomington, Ill
Zeller, H R , from Beamsville to North Lewisburg Ohio

LETTFRS RECEIVED

Byerly A J Coggon Iowa Beck, Carl, New York, N Y
Cadwalader, J S , Cleveland, Ohio
Dewey R , Wauwatosa, Wis , Derrick Adv Agency, The Paul E New York, N Y
Elson, I A Smithville Ohio
Harrison R H , Houston, Texas, Hummel A L Adv Agency, New York N Y
Johnson, T J L Washington, Pa
Lautenbach L J , Philadelphia, Pa Lee C B , Glen Jean, W Va
Morgan J Cambridge, Vt
Rose J R Eastman Ga
Snyder, John F Hawkeye, Iowa
Wynn, F B , Indianapolis, Ind

The Journal of the American Medical Association

Vol XXXI CHICAGO, ILLINOIS, DECEMBER 24, 1898 No 26

ADDRESSES

EMPYEMA IN CAMP GEORGE H THOMAS

Annual Address delivered before the Pittsburg Academy of Medicine, Dec 2, 1898

BY N SENN, M D, Ph D, LL D

Professor of Surgery in Rush Medical College in Affiliation with the University of Chicago Late Lieutenant Colonel U S V, Chief of the Operating Staff with the Army in the Field

CHICAGO

The short, decisive campaign with Spain just ended was characterized, from a medical standpoint, by the smallness of the number of those killed in the field, the prevalence of disease and the large number of deaths from this source The brilliant victories on land and sea which forced Spain to sue for peace have cost us so far over three thousand lives—less than three hundred from the effects of bullets and over two thousand nine hundred from disease The number of deaths from disease will be increased materially, as the different military hospitals at home and abroad still contain a large number of our sick, many of whom will succumb to the diseases contracted during the campaign Even in case the hostilities are not renewed, it is impossible to predict the total loss of life at the present time, to say nothing of the thousands who will never recover the health they brought into the service The unusual amount of sickness which prevailed among our troops, in our home camps and at the seat of war, can be attributed to various causes The call to arms came at a time of the year when bronchial affections, pneumonia, pleuritis and rheumatism are prevalent In the State camp of the Illinois troops cerebro-spinal meningitis made its appearance during the first days of their encampment Typhoid fever had its origin in our State camps and followed our army to the National camps and to the seat of war in Cuba and Porto Rico The accumulation of large armies and the prolonged encampments in localities which lacked a system of sewerage, could not fail in promoting the local spread of infectious disease The invasion of Cuba occurred during the rainy season, which had a deleterious effect on the health of the unacclimated troops, rendering them more susceptible to the effects of the semitropical climate and the prevailing diseases The transportation facilities for the unloading of the transports were utterly defective in furnishing the invading army at the proper time with the necessary supplies The clothing of our troops was not adapted for the Cuban climate And, lastly, the necessary precautions to protect the troops against yellow fever, which is always found on the Cuban coast, where the landing was effected, were not carried into effect The commanding general had been fully advised by the Chief Surgeon of the Army in the Field, but the instructions were ignored in the haste and tumult of the brief campaign A lack of a good knowledge of sanitation on the part of many of the medical officers, and especially the inadequate policing of the camps, had their influence in promoting the local spread of disease Amebic dysentery and malaria, the two tropical diseases to which our troops were exposed in the southern camps and in Cuba and Porto Rico, figured largely in the sick and mortality reports The prevention of these diseases was beyond the control of the medical department The ordinary camp diarrhea, from which almost every participant of the war suffered to a greater or lesser extent, I am satisfied did much to increase the receptivity of our soldiers to typhoid fever infection

Another matter of the greatest importance concerning the health of our troops was the regulation government ration The food selected and furnished for the army in Cuba and Porto Rico was the same as that which had been used in the North Every one who served at the front for any length of time must be convinced that the emaciated, starved condition of our soldiers who returned from Cuba, and who escaped disease, was largely due to the nature of the food upon which they had to subsist The purchase of food at the seat of war was out of question Investigation will undoubtedly prove that many of the canned meats did not contain the amount of nutriment claimed for them Fresh meat and black bread furnished the continental armies are not only more palatable, but also more nutritious than the canned meats and hardtack furnished our army A careful inquiry into the kind of food our occupation armies should be furnished, is one of the most important duties of those who are in charge of the commissary department Another subject of special importance is the special diet for the sick

It is to be hoped that the medical department will be consulted concerning these matters, and that the recommendations made will receive the well merited attention of the military authorities During my service, I met one of our soldiers who served under General Gordon in his advance on Khartoum, who informed me that during that campaign the British troops were supplied, on the whole with much better food than was the case in Cuba England has benefited by long experience how to conduct a campaign in a tropical climate we are novices in this kind of warfare, but have learned enough during the last six months to enable us to take better care of our troops, should we again be called upon to conduct a war beyond the limits of our country

I have deemed it appropriate and advisable, in accepting your kind invitation to deliver the address at this annual meeting, to discuss briefly and from the most practical standpoint, a surgical affection which I had an opportunity to study in a most satisfactory manner during my service at Chickamauga It is my purpose to occupy my allotted time by relating my experience with empyema in Camp George

H Thomas I was on duty as chief surgeon in that camp for nearly four weeks during the months of May and June During that time the camp was occupied by nearly 40,000 men, representing nearly all of the States east of the Rocky Mountains With the exception of one company of cavalry on guard duty, the army was composed entirely of volunteers The days were hot, the nights cool, the midday temperature frequently reached 98 to 100 degrees F The drouth which prevailed at that time rendered the roads dusty, the clouds of dust being only settled occasionally by showers of short duration Camp diarrhea, dysentery, cerebro-spinal meningitis, pneumonia and typhoid fever were then the principal diseases we had to contend with

It is one of the complications of pneumonia—empyema—as observed in Camp George H Thomas, that I desire to discuss this evening Empyema represents the pathologic product of suppurative pleuritis Suppurative pleuritis is always the result of a pyogenic infection of the pleura sufficient in virulence to give rise to pus formation In the absence of traumatic causes it appears clinically and pathologically either as an isolated inflammation of the pleura or as a more or less remote complication of pneumonia Bacteriologically speaking, suppurative pleuritis can only result from the presence in and the specific action upon, the tissues of the pleura of pyogenic microbes in sufficient number and virulence to give rise to a suppurative inflammation

Non traumatic, suppurative pleuritis is a comparatively rare, isolated affection, in the great majority of cases it presents itself as a complication of pneumonia Recent investigations tend to prove that the essential cause of pneumonia is either Fränkel's pneumococcus, Friedlander's bacillus of pneumonia (diplo-bacillus) or the streptococcus pyogenes Streptococcus pneumonia, occurring either as a primary or secondary affection, is characterized clinically by the gravity of the disease and pathologically by the tendency to pus formation The microbes of pneumonia discovered and described by Fränkel and Friedlander are the bacteriologic agents usually found in the inflamed tissues in croupous pneumonia Both these microbes possess feeble intrinsic pyogenic properties, and when, during the pneumonic process, abscess formation or suppurative pleuritis sets in, the complication occurs usually as the result of a secondary or mixed infection with pus microbes Croupous pneumonia is a self-limited disease, and when febrile symptoms persist after a sufficient time has elapsed for the disease to complete its typic cycle, it is usually an indication that mixed infection has occurred, and in this event it becomes the urgent duty of the attending physician to look for, locate and determine, if possible, the nature of the complication to enable him to institute timely, appropriate therapeutic measures

In suppurative pleuritis complicating pneumonia, the inflamed lung tissue is seldom involved in the suppurative process Resolution may proceed in a satisfactory manner at the time and after the suppurative pleuritis has set in, a fact which would tend to prove that the parenchyma of the lung is more resistant to the action of pyogenic microbes than the tissues of the pleura, or that these microbes find their way more readily to the pleura than into the pneumonic focus after secondary infection has occurred The complicating secondary pleuritis manifests itself usually about the time the crisis is expected or a few days later It is evident that suppurative complications in cases of pneumonia would be likely to appear in cases in which the tissues are rendered susceptible to the action of pus microbes and under circumstances which would supply the bacteria for the secondary, mixed infection

Both these conditions were present and operative in Camp George H Thomas The health of many of the men encamped at Chickamauga was impaired soon after reaching camp by the sudden climatic changes, change of food, malaria and camp diarrhea Nearly all cases of pneumonia were characterized by the gravity of the symptoms and a tardiness with which resolution occurred Camp Thomas was located on the government reservation ten miles south of Chattanooga The ground is undulating and in part well wooded Numerous clearings and open spaces furnished excellent facilities for the drilling and maneuvering of the troops The National Park is traversed by a sluggish stream, the Chickamauga Three regiments of cavalry and a number of batteries were in camp during the month of June, the time the five cases of pneumonia complicated by empyema came under my observation The ground is intersected by numerous roads which during the season of drouth which prevailed at that time, became covered with inches of fine dust, which by driving of innumerable vehicles of all kinds, the marching of troops, the passage of cavalry and artillery would rise in dense clouds and by sudden gusts of wind would often cover the entire camp This dust was contaminated by pathogenic microbes of all kinds, which could not fail in finding their way into the air-passages of the occupants of the camp The dust was most abundant near the roads on which there was the most travel, that is, near headquarters

It was not strange that most of the cases of pneumonia originated in localities where the dust clouds were densest, filling the tents and kitchens and covering the food supplies The dust had undoubtedly some influence in the causation of pneumonia, and more particularly in determining the frequency with which it was attended or followed by suppurative pleuritis

Many of the soldiers left their State camps affected by bronchial catarrh, which constituted a potent predisposing cause to pneumonia This was particularly true of some of the regiments from Illinois Naturally the first regiments arriving at Camp Thomas were quartered near the great thoroughfares of travel and those arriving later in more remote parts of the camp It is a noteworthy fact that those regiments farthest away from headquarters were almost free from pneumonia, while those nearest the center of travel furnished the largest number of cases The cool nights, the lying on the moist ground and the inadequate supply of blankets did their share in serving as potent exciting causes Some definite information in reference to the distribution of the disease can be gained by considering the location of the division hospitals, and the number of cases of pneumonia treated in each one of them The division hospitals were located as near the center of the respective divisions as possible

The First Division Hospital was established on the Lafayette Road, about three quarters of a mile from the headquarters of the corps The Second Division Hospital was established about two miles from headquarters and about one-quarter of a mile from any principal thoroughfare, the Brotherton Road being the nearest one But few of the regiments of this division were encamped on roads subject to much travel

The Third Division Hospital was located at the junction of the Alexander's Bridge Road and the Jay's Mills Road, about two miles from headquarters Some of the regiments of this division were quartered on roads which were used by the wagon trains hauling water, consequently frequently exposed to clouds of dust

During the latter part of May and the month of June forty six cases of pneumonia developed in the First Army Corps These cases were distributed among the division hospitals as follows Hospital at Headquarters, 4 cases, First Division Hospital, 32 cases, Third Division Hospital, 10 cases The Second Division Hospital was not established until the middle of June, and from that time on until the end of the month not a single case of pneumonia was reported Careful inquiry at the regimental hospitals failed in finding a case previous to the establishment of the division hospital This was the division encamped almost entirely away from any of the principal roads, hence least subjected to dust-infection It will be noticed that 32 cases, or nearly 70 per cent of the entire number, occurred in the First Division regiments Out of these forty-six cases six died, or a mortality of 13 per cent The six fatal cases came from the First Division In three of these fatal cases death was caused by the progressive extension of the septic pneumonia, and in the remaining three death was caused by complications In one case death was attributed to a typhoid condition in two to cerebrospinal meningitis The septic nature of the cases of pneumonia which developed in the First Division is best shown by the frequency with which empyema attended or followed the pulmonary disease In this division empyema complicated the pneumonia in nine out of the entire number of thirty-two cases, equal to 28 per cent Four of these cases were treated at the Leiter Hospital and four at the St Vincent s Hospital, Chattanooga Five of these cases were operated upon by myself four at the St Vincent s Hospital and one at the Leiter Hospital The following case represents the pathologic conditions found in these cases as well as the surgical treatment which was resorted to in meeting the indications of the empyemic complication

W F, private, Third Ills Vols, was taken suddenly ill while on drill, May 30 The attack was initiated by nausea, vomiting, dizziness and a sense of great prostration On the following day severe diarrhea set in, which, in connection with persistent vomiting and intense headache, influenced his physician to transfer him to the division hospital At that time physical examination revealed a well marked bronchitis In the evening he had a decided chill, temperature 103

June 1 he complained of severe pains in his chest and back, cough dry and hacking, sputum tinged a rusty color Diarrhea continues, slight delirium, temperature 99 in the morning, 103 in the evening

June 2 Chest pains not relieved, sputum more deeply tinged Temperature varies from 101 5 to 103

June 3 Diarrhea under control, cough and expectoration unchanged, delirium and temperature about the same

June 4 No material change in the condition of the patient tongue dry and dark brown

Daily examinations of the chest did not reveal any signs of consolidation of the lung until June 6 At this time the middle and a part of the upper lobe of the right lung were found consolidated Temperature 102

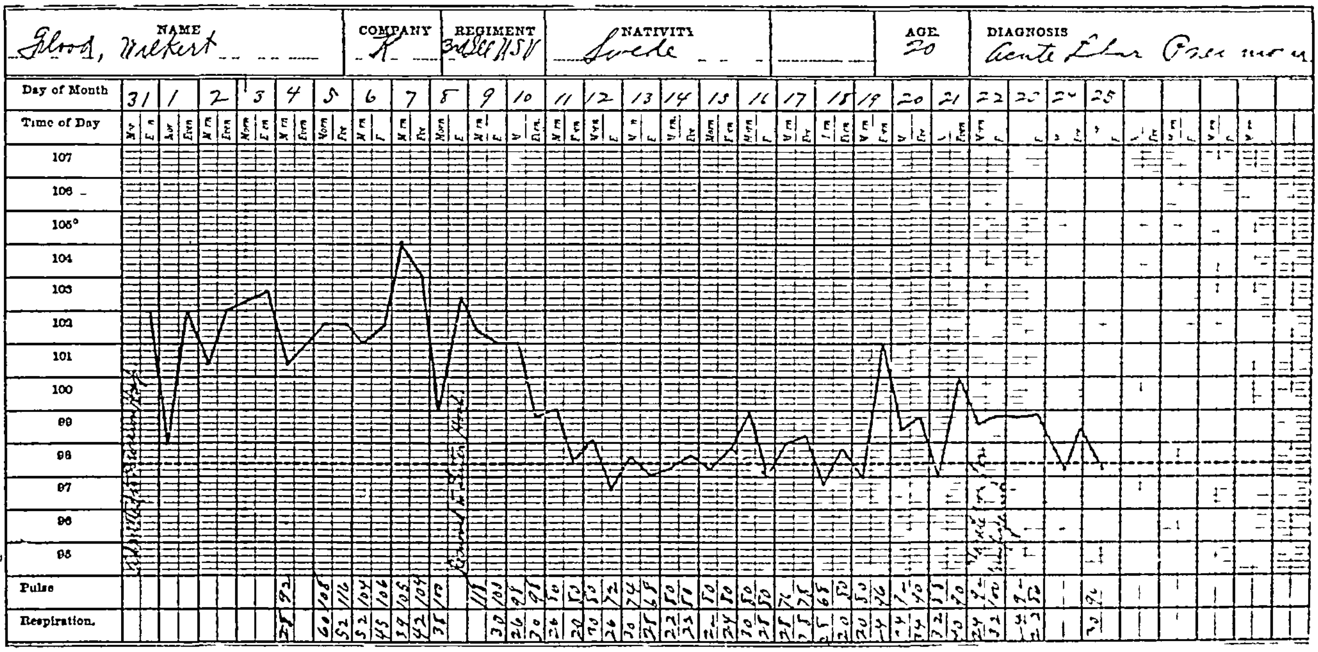
June 7 Patient delirious most of the time, cough harassing, and copious expectoration of rusty sputum Temperature rose rather suddenly to 105

June 8 Cough less troublesome, sputum more scanty, subjective symptoms improved Patient was transferred to the Leiter General Hospital, when on his arrival the temperature was found to be 102.4 The medication at this time consisted of strychnia in small doses, muriate of ammonia 5 grains every four hours, alternated with 3 drops of turpentine Under this treatment the temperature was reduced 1½ degrees during the first day, 2 degrees the second, and 1½ degrees the third day, becoming normal June 11 Carbonate of ammonia was substituted for the muriate at this time

From June 12 to 18 the temperature ranged one degree above and below normal The pulse, which had been 118 beats per minute and feeble on his admission to the Leiter Hospital became fuller and stronger and diminished in frequency to 80

June 19 Temperature suddenly rose in the afternoon to 102, pulse 96

June 20 Examination of chest showed absolute dulness on the right side, extending as high as the fourth rib The appearance of fever after a few days of complete defervescence



Record of variations of temperature beginning May 31, 1898, at Leiter Hospital

Our limited means of making a satisfactory bacteriologic examination of the inflammatory product made it impossible to ascertain in each case the nature of the microbic cause of the suppurative complication In two of the cases, inoculation of proper nutrient media resulted in an abundant growth of the staphylococcus pyogenes aureus I have but little doubt that in most, if not in all cases, the suppurative pleuritis developed in consequence of a secondary infection with pus microbes, probably in most instances with the staphylococcus, as indicated by the clinical course of the disease and the nature of the inflammatory product The etiologic relationship of dust to pneumonia, and especially the pleuritic complication, must be regarded as established by the facts related above

The influence of dust in the causation of pneumonia and suppurative pleuritis acts in two ways in the causation of these diseases 1 The mechanical irritation of the bronchial mucous membrane resulting from the presence of ordinary dust renders the epithelial layer of the bronchial mucous membrane more permeable to the entrance of pathogenic microbes 2 Pathogenic microbes, and in this case pus microbes, are suspended in the dust and find with it entrance into the air-passages

The importance of early radical operative intervention in the treatment of empyema can not be overestimated The only efficient treatment in such cases consists in opening the cavity of the chest freely by rib resection, removal of inflammatory product and establishing free tubular drainage, followed by safe and efficient irrigation, should subsequent suppuration demand it

---

CHAIRMAN'S ADDRESS

Presented to the Section on Stomatology, at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY G V I BROWN, M D
MILWAUKEE, WIS

It is my pleasure, as your chairman, to give the first greeting to the Section of Stomatology of this ASSOCIATION, and also to our confrères in joint session, the Colorado dentists, among whom I trust it may be the inaugural of long and beneficial intercourse Stomatologists in fact we have long been, I am sure, but to be so recognized by title is a long step forward in the direction toward which, from year to year, those who have carried the burden of the vast amount of work necessary to this Section have labored, and is certainly worthy of general congratulation We no longer serve under the somewhat limited, almost ambiguous term of "oral surgeons," but are hereafter to be recognized as those having understanding of the science of the mouth, a tribute complimentary to the scientific character of papers which, published side by side in the journal of this ASSOCIATION with the essays of the most learned medical and surgical lights of the day, have gained the respect of the other branches, having given those who treat diseases of the mouth their only opportunity to exchange ideas directly with the medical world, the influence of which, in discovering to it the possibilities of applying the technique of the skilful dentist, in conjunction with a knowledge also of surgical procedure and medical science, can not be overestimated

The address of your chairman, Dr Andrews, last year, in following out the idea of an anniversary celebration, has told the story of the earnest few, the authors of our being, so completely that reference to the history of the Section is unnecessary It seems, however, that his suggestion as to the necessity for united efforts being made in the interest of sanitation, in having the mouths of school children regularly examined by regular practitioners of dentistry and, in a general way, instruction given as to the care they ought to receive, is worthy of reiteration in order that the idea may not escape entirely An effort made in my own home during the past year to carry out the plan has not proven thus far of any practical value, but constant agitation and repeated effort will undoubtedly accomplish much that is at first apparently impossible

There is another line of duty to which I would respectfully call your attention, which also calls for united effort in order that our objects may be furthered As we all understand, the essential idea of this Section is that dentists shall also be graduates in medicine, therefore properly entitled to the benefits accruing from association and consultation with physicians There is a difference of opinion as to the advisability of having the student take the medical degree first and the special degree in dental surgery afterward, or vice versa, but there can be no question of the importance and little, if any, of the necessity of having both Unfortunately for this desideratum, the difficulty of accomplishment is most unfavorable, owing to lengthening of the required course of instruction for recognition by the National Association of Medical College Faculties and the National Association of Dental Faculties, while with each it is a mark of progress toward higher education, and the probable effect, so far as the Section of Stomatology is concerned, and the advance of both professions into that interlying field, fast becoming of value to each, bids fair to completely abort, or at least inhibit a promising growth in future usefulness The number of years of study required is becoming, not only quite beyond the possibility of the average student to attend, but more extensive than the benefits to be derived from the practice of our special branch will warrant, in comparison with other departments of medical science Therefore, the natural result will be that the student of the near future must decide either to be a dentist, pure and simple, without a degree in general medicine, or be obliged to become an oculist, an aurist, a rhinologist or a practitioner, limited to some one or more of the other special fields of medicine for which he can equip himself with one year, or perhaps a little more, of study after graduating at some medical college, and even if he takes a short postgraduate course abroad, as so many do, will yet have perhaps expended less time and money than would be required to complete his attendance at a reputable dental school

When this Section was first organized and recognized by the AMERICAN MEDICAL ASSOCIATION it was possible to complete the required course for the degree of D D S in two years, then get an advanced standing in the medical college and receive the degree of M D in one year afterward Today the National Association of Medical Colleges requires four years for graduation, and the dental faculty association three years, with the prospect of an additional year in the near future—now under consideration It has already become a matter of some difficulty for a graduate of either school to be allowed advanced standing of even one year in the other, so that under the most favorable circumstances it requires five years' study to acquire both degrees at the present time, with every likelihood of the sixth year being added Thus it seems not altogether improbable that, without adjustment of the difficulty, the Section of Stomatology may become almost limited in its active usefulnesss to the lives of present members

I believe the good work done by this Section already, and the far reaching benefits resulting from the great advance due to an understanding of the nature and treatment of diseases of the mouth, applied in a scientific manner, by association with other departments of medicine, have established the fact beyond the peradventure of a doubt, that from a clinical and scientific standpoint it has earned the right to urge upon each side that an effort be made to further the protection of further influence, by modifying for the purpose, in a reasonable manner, the exacting requirements upon those who desire to be fully equipped with both degrees To take the medical graduate in one year through the necessary technique of operations upon the teeth, in order that he may become an accomplished operator in that short time is almost impossible To require students of the dental college to take a full course in anatomy, physiology, chemistry and all the fundamental branches, the same as medical students, has been proven to be, for the average individual quite too much in addition to his mechanical instruction, having a tendency to cause neglect of the latter, but in dental schools that are connected with medical colleges and universities, it is always possible for a student, willing to make unusual effort, to take the regular course with the medical student, and at the same time fulfill the requirements of his dental studies and laboratory work For such, the reward and encouragement should be that, having passed the same examinations, with an average equally as high as his medical brother, he will receive credit for those branches and be exempt from future examinations, so far as they are concerned, when he undertakes the study of medicine, also that the dental student so educated shall receive some mark of distinction in his degree, which will serve to note the difference in his favor over other graduates in dentistry, and that the holder of such a degree be allowed to finish his course of medicine in at most two additional years On the other hand, medical students at colleges where both branches are taught may avail themselves of the opportunity to do required work under the instructions in dental operative and prosthetic technics, and having done so, be admitted to the senior year of a dental class with credit allowed them for this work done, even though it had been done while a matriculate in the school of medicine Such an arrangement would in no wise tend to let down the bars in either profession, and would without doubt encourage many students to make this effort, the enviable result of which would be more fully educated men and a greater number brought up directly in line with the purpose of this Section

The bibliography of the past year, in its valuable additions to science from members of our profession, particularly of this question, invites discussion in a most alluring manner were time and and your patience sufficient, but in order that all may not escape, and because of special interest to myself as bearing upon a subject, the clinical aspect of which has for some time been the object of my investigation I desire to call attention to the photographs of microscopic sections recently shown by Dr J Leon Williams of London, in line with others by Talbot and statements by Black demonstrating that the blood- and nerve-supply of the peridental membrane of the tooth is something quite different from that which is depicted in the illustrations of Gray and other anatomic authorities, clearly showing as they do, nerve filaments and nerve fibers communicating directly with the peridental membrane of the tooth from the main nerve-supply, a most important clinical consideration Last year before this Section, in my paper on "The Hyper Kinesis of the Muscles of Mastication,' I endeavored to call attention to the fact that tooth grinding or extreme pressure of the jaws, caused by irritation of the nerve-centers controlling those muscles was a common etiologic factor intimately associated with neuralgia of the trigeminus, and other pains of the head, particularly in those forms of the headache which are the accompaniment of neurasthenic conditions Since the writing of the paper referred to a number of very interesting cases have come under my charge, in which the character of the pain had been mistaken for reflex of uterine diseases, and for which there had been one or more operations performed in the hope of relief, but without success, which in every case was afforded by correction of the source of irritation, discovered to be in the mouth In one case there was evident a condition such as might be attributed to what is known as eye strain, and I desire to introduce at this time the expression "jaw-strain," as applied to a similar general condition resulting from an irritable weakness of the nerve-centers controlling the muscles of mastication and the trigeminal branches directly affected which, without going into more minute explanations, are easily accounted for by an examination of the photomicrographs referred to Since through the peridental membrane we have as direct a connection with the main nerve supply as had long been supposed to be through the apical foramen of the pulp of the tooth only, tooth grinding could have produced an equivalent condition to that of eye-strain, which several writers claim to be the cause of at least 50 per cent of all cases of hystero epilepsy and other disorders of nervous origin

Full of hope, strong in the faith that the essays before us—to which in closing I invite your attention—will add their mite to benefit mankind in the alleviation of suffering, and filled with a deep sense of our several obligations, I thank you for courteous attention, and the honor of addressing you in my present capacity

---

ORIGINAL ARTICLES

DIET IN DISEASE

Presented to the Section on Physiology and Dietetics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY CHARLES H SHEPARD, M D
BROOKLYN N Y

There is no function of the human body so essential to its existence as the process of digestion and it may be stated as a fundamental proposition that those foods having a natural proportion of the elements of nutrition are the most desirable for maintaining a correct balance of the system and retaining its vigor

No infringement of this law is tolerated When we attempt to nourish the body on any one element of food, such as starch, sugar or fat, it is sure eventually to prove a failure, and bring on gastric disturbance and functional incapacity Whenever an excess of even the simplest and most appropriate kind of food is taken, the digestive organs become overtaxed If this excess is persisted in, nature refuses its assistance and allows that which it can not utilize to remain unappropriated, from lack of digestive fluid to complete the process, and from being unacted on it soon ferments and entails manifold and untoward consequences The large amount of fluids secreted by the different glands and mucous membranes prevent putrefaction and aid in the distribution of nutriment to the proper channels to sustain life This shows the intimate relation between diet and disease In fact, a carefully regulated diet has, in numberless cases, proved one of the best, if not the very best, corrective of disease

In this land of plenty there is an enormous waste of food material by all classes, but of all wastes the worst is that of excessive eating, not only because it destroys the food, but for the reason that it produces many of the diseases that are attributed to other causes When we consider how much suffering of body and mind results from systematically abusing the stomach, it will be understood and admitted that our people are great sinners against the laws of health It is acknowledged by the best authorities that mankind as a rule in this country partake of about double the quantity necessary for the highest condition of health, and it should readily be seen that plethora can be quickly and safely reduced by abstinence, with water, warm or cold, to dilute and wash out the surplus Inasmuch as our bodies are made up of what we eat and drink, and our health and happiness is largely dependent upon the proper selection of our food, no reasonable mind can for one moment doubt that our health is made or marred by that selection, and it becomes us as sensible beings to make a study of the subject, if haply we may thereby secure the maximum of physical vigor and intellectual force, for it is in proportion to his mental clearness that a man succeeds or fails in the many struggles of life Both the quantity and quality of food are important, so that mankind shall be neither overfed or underfed, and thus preserve a happy medium that contributes to the most perfect condition of health

Just so soon as people learn and obey the laws of health will they begin to realize and obtain the fulness of days which is their due, and which is estimated by many to be over one hundred years If man had what he is entitled to, the birthright of a clean, vigorous constitution, which never comes of reckless parentage, and then could be brought up under the most sanitary influences, this would be the minimum of his years The time will certainly come when it will be considered a disgrace to be sick, for that condition is only brought about through a transgression of nature's laws

It is evident that as we progress in intelligence and refinement our food standard changes Perhaps it would be more correct to state that as man improves in his dietetic habits he will advance physically, mentally and morally Today, not only is less alcohol used with food than in former years, but fruits are more and more in demand, and it is equally true of grains and vegetables, and doubtless many of the great variety of nuts will be found desirable, to the further exclusion of animal food Nuts are fat-forming, heat- and force-producing, and more nutritious than animal foods, and are not open to any suspicion of disease-production The nut-growing industry is of increasing importance and will be found largely remunerative in the not remote future Then nuts will take high rank among the foods of our people As compared with the nourishment they give, fruits and nuts have the least proportion of earthy salt Animal flesh comes next, then vegetables, and fourth in rank we have cereals and pulses, which are shown to have the largest amount of earthy matter

A union of the cereals with fruit, vegetables and animal food has so far produced the most satisfactory results, though the mass of mankind enjoy life and are well nourished without animal food The educated Brahmin lives very simply, often upon one meal a day As man advances toward a higher plane, he inevitably tends toward what, for want of a better term, may be called vegetarianism Those capable of the greatest endurance subsist mainly upon the products of the earth The Grecian athletes, who made the glory of the Olympian games, were trained on vegetable food Those were the days when the Grecian outlines were the standard of physical beauty, both in face and figure The eminent Professor Virchow says, "the future is with the vegetarians"

The first requisite in our diet is that of pure water Man can live many days on water alone, for we are mostly made up of water, and disease can be quickly washed out of the system by taking nothing but pure water This has been many times demonstrated Impure water has been the cause of some of the most fatal epidemics Another important requisite is that of pure milk In infancy we live on milk alone, which may be called a perfect food, containing as it does all the elements of nutrition Another important requisite is good bread, but when it is made principally from the starch portions of the grain, with the phosphates and other nutritive elements excluded, it is very far from being the "staff of life," as it is sometimes termed The most perfect bread is made of the entire wheat, not too finely ground, and mixed with pure water, adding nothing but a little salt, and then baked in a quick or hot oven This is the primitive form of breadmaking and contains all the nutriment of the grain The greater the departure from this standard the more undesirable, from a health point, does the bread become The more bread is raised by leaven or yeast, the greater is the destruction of the elements of nutrition When we consider how much the popular bread of the day is robbed of its life giving principle, it is not so much to be wondered at that the unsatisfied craving for perfect nutrition leads to the saloon and a thousand other ills More than one physician thinks that the enormous increase in diabetes in this country is due to our modern way of living, and particularly the use of fine flour in bread and other preparations, which is deprived of a large proportion of the most important elements of nutrition It has been many times demonstrated that children fed largely on white flour bread are found to be deficient in the bone-forming elements, and this is plainly shown in the teeth Another thing that militates against the teeth of our people is the habit of using so much soft food If we do not use our muscles they become weak and flaccid, so with the teeth, they decay and become useless, the gums soft and the teeth loose The reason we need the tooth brush so much, and have to call upon the dentist so often, is because of the large use of food that does not require mastication

The most untoward results come from feeding infants and children with unsuitable elements of food, and at times allowing them substances such as common salt and lime, that by no possibility can be utilized as food That so many live after passing through the ordinary ordeal demonstrates the wondrous vitality and power of resistance of the human race to morbid influences Chlorid of sodium, or common salt, is by no means identical with the salt contained in fruits and vegetables, in these it has been organized and fitted for appropriation to animal life From recent experiments in Europe, there is strong presumptive evidence that common salt, in excess, produces renal troubles leading to Bright's disease Lime also, an important element in the formation of the teeth and bones, can not be utilized in the crude form of mineral lime, on the contrary, it delays and interferes with digestion, but in the organized form, as found in the whole wheat grain and other cereals, as well as in fruits and vegetables, it is prepared in the most perfect manner possible for the building up of the human framework, as these elements become digestible only after their assimilation by plants suitable for human food

While condiments and seasonings are very popular, the fact remains that they are entirely innutritious, and serve to foster an artificial appetite They destroy our appreciation of the finer flavors of the foods At the same time they prove injurious to the health, by irritating the lining membranes of the digestive tract, and thus creating as a natural sequence an artificial demand for alcoholic mixtures It is said of one of the Roman emperors that his taste became so vitiated that his food was necessarily seasoned with asafetida, in order that he might realize some taste of what he ate Undoubtedly many of the vices that injure society and eventually result in crimes have their beginning at our own tables We certainly can not expect to build up a strong vigorous constitution, capable of resisting disease, by feeding on ice cream, rich pastries and sweets They do not furnish the bloom of youth On the contrary, it has been found by reliable experiments that by providing the kind of food that goes to the nourishing of blood and muscle, the development of children has been forwarded to a remarkable extent

Dr Springer of Berlin announces that extracts from cereals, obtainable everywhere, are the best bone builders, and therefore well adapted to the growth and perfection of children Here is his recipe "Take two soupspoonfuls each of corn, barley, oats, rye, maize and bran, boil in four quarts of water three hours, allow to cool and then strain If necessary add enough water to make a quart A palatable yellowish fluid is obtained, which may be improved by the addition of milk for children " The results with several children placed under his care surpassed his anticipations This has the merit of being equal in value to any of the extensively advertised food nostrums of the day, and is much less expensive Secret foods should no more be encouarged than secret medicines, for some of them are simple frauds, particularly the so called diabetic foods, and others are dangerous to the sick and well alike The worst of all are the alcoholic beverages masquerading under the name of malt The best and most economical food materials for universal consumption are those in common use and which need no fancy names One authority says, in an attack of summer diarrhea in children under two years of age, all albuminous and starchy foods should be prohibited It is the mature opinion of expert physicians that at such times, milk and the milk foods only tend to furnish fresh fuel for the growth of pathogenic bacteria in the gastro-intestinal tract Give instead nothing but toast-water or barley-water for thirty or forty eight hours They contain plenty of nutrition for such conditions, and rarely produce any disturbance

The list of foods that are said to be useful for this or that disease is almost unlimited, from onions, spinach, asparagus, cranberries, lemons, to figs, apples, grapes and prunes Eczema has disappeared upon a discontinuance of starch foods and a substitution of fresh and dried fruits, milk, eggs and olive oil The fact that a special line of diet is often curative for a large class of diseases is fully demonstrated by the different "cures" that are established in many countries, such as the grape cure in Southern France, the whey cure in Switzerland, and the koumiss cure of Southwestern Russia, and there are so called fruit cures Apples, oranges, lemons, bananas, prunes tomatoes, etc , have been utilized at different times and in different ways for such purposes The milk cure is another claimant for favor, and the dry cure, which consists in gradually reducing the amount of fluid taken into the system, also has its advocates, and there is the vegetarian cure as well as the beef and hot water cure, all of which have many followers, that seek the same end through different means Fruits are among the most beautiful productions of nature, satisfying the esthetic taste as well as the palate The purest water is contained in them Their sugar is abundant and harmless, their acids cooling, refreshing and corrective of many untoward conditions of the body The up-to date physician recommends them largely, and they have been used to counteract the alcohol habit The demand for fruit today is not only much greater, but a much superior quality is required than was prevalent thirty years ago

An exclusive diet of fresh fruit for breakfast without much change in the other two meals, has been found successful in relieving indigestion One author claims to have cured himself of serious stomach troubles by means of this régime The writer has made a trial of this plan for more than a year past with pleasing results A short time ago a physician claimed that one meal a day of prunes was most beneficial to the nervous system, and would even make criminals more tractable It is related of the Emperor Nero that he ate greedily of onions and garlic to improve his voice Grapes are nutritious and the juice is said to contain sugar tannic acid, bitartrate of potassium, tartrate of calcium, common salt and sulphate of potassium The use of unfermented grape juice is deservedly increasing and taking the place of alcoholics in the practice of some of our ablest physicians The delicious grape fruit is reputed to be a rival to quinin in the treatment of malaria and the blackberry has long been considered as a sovereign remedy for summer complaints The German analysts say that the apple contains a large proportion of phosphorus, and is admirably to renewing the essential nervous matter and the spinal cord The old Scandinavian traditions represent the apple as the food of the gods, who when they felt themselves growing feeble and infirm, resorted to this fruit to renew their powers of mind and body Those who cultivate the habit of eating a great deal of fruit are the gainers both in health and appearance, though it is well to heed the Spanish proverb, "Gold in the morning, silver at noon, and lead at night "

A water diet, or an entire abstinence from solid food for a limited time, and using water freely, has proved efficacious in a multitude of cases, especially in removing old tumors and enlargements of certain parts, such as goiter, etc , showing that the inherent vitality was sufficient to relieve the system of disease when the overplus was cut off and the system permitted time to eliminate the morbid accumulation

An English magazine reports of the Northumbrian women, who came of a large framed race, and whose work lay in the fields, that they were hearty and buxom on a diet of oatmeal and milk, but as having sadly degenerated become paler in color, stunted in size, and less capable workers, because wheat flour had supplanted oatmeal, and cheap tea taken the place of milk Tea is injurious when taken with or shortly after meals, because the tannin it contains tends to coagulate the albumen of the food undergoing the process of digestion Meat, fine flour bread and tea are the staple articles of food for a large part of our foreign-born population, as well as for some of the natives, and their children are fed in the same manner when quite young This form of diet produces as a result, a pale, sodden complexion, dull eyes, flesh with no firmness, and individuals without stamina Children are more sensitive to nervous stimulation than adults Their nervous system is extremely delicate Even a slight irritation in the alimentary canal is sufficient to throw the child into violent convulsions Therefore neither tea nor coffee is a fit drink for children It is more than probable that the common use of these narcotics during childhood and youth is one of the factors that in later years produce the army of neurasthenics It is stated by travelers in Brazil that the free use of coffee by the inhabitants is bringing about an evident deterioration of the people This is conspicuously shown in their complexions and their nervous systems By irritating the nerves that govern the heart action, coffee quickens the circulation, and in many cases induces cardiac palpitation There are a few persons upon whose nervous constitutions coffee acts in the same way as alcohol

It is frequently noticed that both improper quality and quantity of food has directly produced disease When the horse, the cow, and many other animals are sick from overwork or exposure, they refuse their food, and when they begin to eat it is recognized that convalescence is at hand This object lesson is worthy of imitation by the higher animal, man Just so far as a departure is made from the laws of health, will the penalty be suffered, and this calls to mind the fact that in the South the planters are attempting to utilize for their cattle some of the dregs of their sugar mills, called "black strap " This may apparently work well for a time, but as it is not their natural food, in the end it is liable to result disastrously, as has the feeding of cows on "still slops," only it may come in a different form of disease

That life and health are appreciated as priceless is shown by the American public in a misguided manner, when it pays two hundred million of dollars annually for proprietary medicines "All that a man hath will he give for his life," but he who pays out money for patent medicines is paying more for death than life More and more it is believed that strength of body conduces to strength of mind and morals Young men and women gladly place themselves on a restricted diet when training for some game or enterprise, and thereby receive many an object-lesson in the value of certain kinds of food to enhance or destroy their powers of endurance The judgment that this or that plan of diet is the proper thing to ensure success makes it a pleasure even to those who have been educated in a vastly different school How much more will the great majority of mankind, when they come to realize that the problem of life is dependent on the kinds of food and drink they habitually use, learn to enjoy those things which the judgment of scientific research tells them are conducive to their higher development and health, and thus shall we not only find that a consistent diet aids in the cure of disease, but in a larger measure tends to the prevention of disease As a rule, however, most of us learn these facts through the medium of painful personal experience Certainly a subject fraught with such important consequences is worthy of earnest study, and happy are they who early learn the lesson, and thus avoid many of the pitfalls of our day, and pass on to a serene old age A good authority says, "Every one dies before his time This is not strange, for during his whole existence, from the cradle to the grave, a human being, even if in good circumstances financially, is surrounded by unhealthy conditions He eats scarcely anything that is not adulterated, wears hardly anything but what is shoddy, and ignorantly neglects both personal and public cleanliness 'Cheap, let's get it cheap ' Purity is the last consideration, and no matter at what age he dies, he has by this constant use of adulterated products, been deprived of several years of life " Most truly did Seneca say, "Man does not die, he kills himself " An English authority, in speaking of the alimentation of old age, says that in advanced years the stomach can no longer endure the strong food of former days The period of decline is characterized by several changes, both in the voluntary and involuntary muscles of the body A want of tone affects the circulation generally, the digestive system becomes weaker, and the mental powers share in the decreasing vitality For healthy old age the body should be lean and spare, like that of a school-boy, the foods being reduced in quantity and animal food restricted If the decline in energy is not met by a corresponding diminution of the demands upon it, the result is sure to be an accumulation of fat, and retrograde changes, producing gout and rheumatism In advancing age the food consumed should approach that of youth, and in second childhood, a return be made to the bread and milk of early days

The hereditary vigor with which all are endowed, some more and some very much less, is what may be called personal equation, and may easily explain how it is that some individuals can go on transgressing the laws of health in a most reckless manner and yet outlive others who are most scrupulous in the care of their health The fact is that many of the latter have found themselves obliged to lead a careful life, else they would have to pass on altogether Those who squander their stock of vitality, never see the fullness of their days, and their children if they are unfortunate enough to have any, are still shorter lived It is what we eat and drink that makes or mars our condition If we partake only of the pure, we shall be clean and pure thoughout If on the contrary we handle the unclean and attempt to build up with gross material, it will result in uncleanness, disease and death

Those who are seeking to retain their health as well as those who desire to regain it, must necessarily observe simplicity in their diet, and uniformity in the time of meals The highest efficiency of the forenoon work is not promoted by a hearty breakfast, nor is a hearty luncheon helpful to the afternoon duties For those who are actively engaged during the day, the evening seems most desirable for the principal meal For centuries this has been the practice of the people of many countries Nothing should be eaten between meals, nor when the body is exhausted Scientific experiments have demonstrated that fatigue is a disease, and that it is possible to produce the same symptoms in one animal by inoculation with the fatigued serum of another, showing that overwork produces an actual poison in the system Worry is equally antagonistic to good digestion A little rest and banishment of care in preparation for a meal should become a habit It means preserved health and lengthened life Three meals a day are ample, many flourish on two, and for some persons one meal a day has been found sufficient With good food, and the best is none too good, well cooked, and well masticated, the stomach will do justice, especially if only gentle exercise is indulged in for an hour or more afterward The digestive process usually occupies the stomach from two to three hours It is always better to eat too little than too much, this is proved by common observation Indigestion and nightmare are the penalty of over-indulgence It is not in the quantity eaten that one is benefited so much as in the amount that is assimilated and appropriated for the needs of the body Nature's mode of saying that the system is in no condition to take care of what may be forced upon it, is indicated by a want of appetite The eating of candy is pernicious because of the sugar of which it is made and the inopportune times it is usually partaken of as well as the poisons which it sometimes contains Nothing but pure water should be partaken of between meals or when one is inclined to enjoy exercise before breakfast There will be more general invigoration if the stomach is not then called upon to work The morning hour is a choice time for either mental or physical exertion, as it follows a long period of rest and recreation, and the stomach is quiet Ordinarily there is but little work done after the late and hearty dinner, and as there is but little tissue waste during the hours of sleep, and that is the time when assimilation is most perfectly carried on, the body has then sufficient energy accumulated and stored up to meet all demands of the morning s pleasure or exercise Any severe exercise is best taken on an empty stomach, because then the nervous energy is free and can be concentrated on whatever is desired to be accomplished, but when the stomach contains an undigested meal, a portion of vital energy is required for the work of digestion, and the more it is interferred with the worse it is for the individual concerned

He who desires the supreme vigor of health, can have no use for alcohol, tea, coffee or tobacco With pure water, well-chosen wholesome food, the exclusion of all narcotics, and clean habits, together with our bracing climate and active pursuits, and the intermixture of the most enterprising races of the world, the American people should develop into the highest type of individual, family, and national life

Fortunately the application of science to daily living is on the increase Education is beginning to affect domestic life and in the near future our people may learn how to prepare a diet that will promote their health and development The cooking schools are an indication of progress in this direction There is no reform movement that appeals so directly to our daily needs as reform in diet, and herein the physician may find a field for some of his noblest work when considered from the standpoint of morality and hygiene What we shall eat, and what we shall drink, are ever recurring problems, and upon their wise solution largely depends the health and happiness of mankind

81 Columbia Heights

THE IMPORTANCE OF A PROPER DIETARY FOLLOWING LAPAROTOMY

Presented to the Section on Physiology and Dietetics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY C W WATTS, M D , Ex U S Surgeon
Moberly Mo

We propose to divide the subject into three heads the dietary preceding, the dietary at the time of, and the dietary following the operation

In order to be correctly understood we define a laparotomy to be any surgical operation performed upon the contents of the abdominal cavity at any point between the ensiform cartilage of the sternum and the symphisis pubis And we propose to draw also the line of distinction between the operation performed on the organs contained therein and the other viscera, from the fact that the dietetics should be different from those necessary in cases of appendicitis and operations performed upon the stomach and intestines From an experience that covers a number of years, both in private and hospital practice, we are disposed to attribute the fatal results following operations on the abdominal cavity, more to the neglect of a proper dietary than to the direct result of the laparotomy The surgeon who performs the operation is not to blame, but the one who has charge of the patient before and after the operation

Before any operation is performed, for at least ten days, the patient should be prepared for the operation by a proper diet The *prima viæ* from the buccal cavity to the anus should be thoroughly emptied and cleansed by antiseptics and aseptics Not a single particle of extraneous matter should be left After this cleansing process has been completed a fluid diet should be commenced and kept up until the hour for the operation has arrived when all dietary measures should cease until the operation has been completed then a plain nutritious fluid diet should be kept up until the patient is dismissed If it be a gastrotomy, a gastro-enterostomy, an enterotomy, or the removal of an appendix, the diet required in these cases is one by enema in preference to per orem, for reasons too plain to mention On flushing the colon and as far up as the sigmoid flexure, you can give nourishment in all these flushings, with the exception of the one used to relieve the flatus and gaseous distention of the intestines, which should be of simple hot water sterilized

Supporting the system by nutritious enema is almost an unknown quantity among surgeons Only those who have had practical experience are competent judges of its beneficial influence

What we mean by nutritious enema are enema composed of sterilized milk, wine-whey, animal broths, etc, introducing into these enema any antiseptic that the surgeon may deem necessary As surgeons we have not respected the digestive glands of the intestines sufficiently We have not been disposed to give the stomach or intestines involved as much rest as they demand or require when being repaired by the surgeon We have depended more upon the *vis chirurgical* and ignored the *vis medicatrix naturæ*, or the neglect of giving Nature, Dame Nature, the privilege of exercising her proper functions of recuperating energies Many fatal results from the various laparotomies performed at the present day are the direct result of ignoring Mother Nature

In operations upon the ovaries, kidneys, uterus and liver we can allow more generous diet, and can give well-digested fluids and solids, but in cases of stomach and intestinal operations we must adhere strictly to a fluid diet, given in small quantities and not too often repeated Especially is this true where a section of the intestine has been removed In this operation, as in a fractured rib, we require to apply adhesive strips to control the respiratory muscles So in the enterotomies, we must prevent the peristaltic action by not inviting it by the administrations of food Keep the stomach empty and let it rest until the intestinal wound has healed, which is but a short time The laparotomist approaches his case with a good deal of confidence of success if his patient has had a careful dietetic preparation for the operation, and if he is certain that the dietetic precautions will be adhered to until convalescence has been completed Too many operators are reckless and careless, and beget as a result, failure—failure invited by their reckless procedure Too many are anxious to operate, regardless of the condition of the patient Nowhere within the domains of surgery is the aphorism truer than in the saying, "haste makes waste"

Prepare your patients for the operations I had rather amputate a limb upon a full stomach and bowel with assurance of success than to plunge my knife into an intestine or appendix with the same stomach and bowel loaded with their contents Fortunately for humanity our noble profession is working up along this line The day is not far distant when any form of laparotomy will be a comparatively safe operation, provided due regard has been had to the dietetic part of the treatment More credit is due to that careful and painstaking physician who prepares his patient for the operation and then leads him safely through a proper dietary following than to the operator who does the work All true surgeons will admit this Examine the statistics of all laparotomies performed in this and the old country, and their history attests the truth Of course we have no reference to those cases where an immediate operation is demanded Fortunately, these cases are but the exceptions to the rule that governs proper treatment in the majority of cases Every year has proven in its results the necessity of a proper dietary Successful results are so sure to follow a proper dietary that it will soon be that any surgeon who neglects it should be held responsible and subject to prosecution for malpractice There is no excuse under the heavens for reckless surgery, or for a surgeon who ignores the recuperative powers of nature Who is so egotistic as to believe that his own surgical procedure wil be vindicated by an offended nature? In the language of the immortal, illustrious Gross, "Respect nature, gentlemen, respect her Relieve her of any dead parts, but for God's sake don't attempt substitution on her" Good, pure water is fine food, is easily digested and contains tissue properties Good milk properly prepared is nutritious and safe, wine-whey is good, peptones and peptonoids are, to say the least, doubtful I had rather my patient live on nothing than to use them in many cases

Total abstinence is a fine diet in many cases I never knew a laparotomy patient to die from starvation, but I have known them to die from overfeeding and neglect of a proper dietary

---

THE IRRATIONAL AMERICAN BREAKFAST, JUDGED BY OUR PRESENT KNOWLEDGE OF THE PHYSIOLOGY OF DIGESTION

Presented to the Section on Physiology and Dietetics, at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY BOARDMAN REED, M D
PHILADELPHIA

A witty Frenchman once remarked in substance that Americans partook of a dinner at breakfast time It is a fact that on the continent of Europe it is the almost universal custom to break the fast in the morning with a very light meal consisting generally of little, if anything, besides rolls and coffee or chocolate In no other country, probably is so hearty a breakfast eaten as in these United States This may or may not be prominent among the hygienic faults that make Americans the most dyspeptic people in the world, but it is doubtless one of the causes It is not reasonable to expect of the digestive organs as energetic and efficient work in the early morning as later in the day The circulation is then less active and the nervous system not yet aroused to its fullest energy One would naturally suppose, therefore, that the gastric, pancreatic and intestinal juices would not be so readily supplied in the quantities necessary to digest a very hearty meal at the breakfast hour as some hours later Healthy, vigorous persons, who exercise much out of doors, can so adapt themselves, no doubt, to the habit of beginning the day with a heavy meal, and such persons may not be the worse for it, but it is different with dyspeptic and delicate people from whatever cause These nearly always do better when given some light nourishment soon after awakening, their first substantial meal being taken at a later hour

But this beginning of the day with a large complicated meal, scarcely less in extent and variety than the dinner, is not the only dietetic error of which the majority of our people are pre eminently guilty The relative order in which the average American takes the various kinds of foods entering into his generous breakfast is in defiance of the teachings of physiology For example, it is well established that the digestion of starch is begun by the action upon it of the ptyalin in the mouth, as well as on its way to the stomach and during the first twenty or thirty minutes of its sojourn in the stomach—that is to say, while the gastric contents continue to be either neutral or only faintly acid The percentage of acidity at which starch digestion is arrested is stated differently by different authorities Ewald and Boas found it retarded by 07 per cent of hydrochloric acid and stopped by 12 per cent Chittenden states that it is stopped by 003 per cent This is reached by *the normal stomach at the end of the first fifteen or* twenty minutes after the beginning of a meal and in much less time when the secretion of hydrochloric acid is excessive, as it very frequently is with dyspeptics When meat or an animal broth forms one of the earlier courses of the meal, the stomach contents become acid sooner than when milk or vegetables or cereal food is taken It follows then that our amylaceous foods when forming part of a mixed meal should 1, always come in the earlier courses, and 2, be as thoroughly masticated and insalivated as possible, so as to insure a prompt conversion into the forms of sugar in which only they are capable of absorption and assimilation

The breakfasts which are served in most of the better-class American hotels, as well as in a large proportion of the wealthier private families in this country, begin with fruit (often highly acid kinds, such as grapes, oranges, or grape fruit), followed by some form of mush (largely starch) washed down with milk or cream, and with scarcely any admixture of the saliva Enough of the sour fruit has often been taken before to render the stomach contents too acid probably for the digestion of the farinaceous foods to take place, even if any saliva—the only fluid capable of digesting them which they can encounter before entering the duodenum—had been incorporated with them In the table given by Boas as representing the results obtained by both Ewald and himself, the organic acids are credited with a decided power of inhibiting the digestion of starch, though less than that exercised by hydrochloric acid

The third course is usually beefsteak or mutton chops, which, in the normal stomach are almost sure to stimulate the secretion of the gastric juice to a degree which carries the acidity of the stomach contents above the starch digesting point, supposing that the acid fruit of the first course has not already done this To render it still more impossible that any further starch digestion should take place in the stomach at this stage of the breakfast, most persons, including children and healthy young adults having presumably an abundant gastric secretion, are usually encouraged to stimulate their peptic glands to a still greater secretion of the acid gastric juice by a free use of pepper, hot sauces or other condiments If the meats were taken without accompanying or following starchy foods, it would not be so bad, but as a rule potatoes and hot bread in some form are eaten at the same time, and very often the meal is topped off with griddle cakes and syrup, one of the most indigestible and flatulent of the combinations of carbohydrates

Another peculiarly American habit is the drinking of ice-water, often in large quantities with every meal This retards digestion, both by lowering the temperature of the contents of the stomach and by an over-dilution of the gastric juice It is also capable of damaging seriously the delicate mucous membrane and ultimately causing catarrhal inflammation in patients otherwise predisposed to that affection Is it any wonder that Americans so generally suffer from stomach troubles, and especially from the manifold consequences of the indigestion of starch?

If one must eat so large a meal in the morning the viands might be served in the following order with much less risk of harm 1, cereals well masticated and accompanied by rolls or bread and butter to carry down plenty of saliva 2, potatoes with more bread and butter if desired 3, meat or eggs, accompanied by a little salad 4, fruit, 5, coffee or chocolate

---

A NEW THERAPEUTIC MEASURE—THE ELECTRIC-LIGHT BATH

Presented to the Section on Materia Medica Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY J H KELLOGG, M D

BATTLE CREEK MICH

In a paper read before the American Electrotherapeutic Association at its meeting in New York City in September, 1894, I presented a description of a new method of applying heat to the body, using, as the source of heat, the incandescent electric light I also gave in this paper the details of many experiments which I had conducted for the purpose of determining the physiologic effects of this bath, and also a comparison of the effects obtained by this bath with those obtained by the Turkish and Russian baths The general conclusions to which I was led by this investigation were as follows

1 The electric light bath stimulates the production of the elimination of CO in a very marked degree In an electric-light bath lasting for thirty minutes, the percentage of CO elimination during the last ten minutes was 5 13, as compared with 3 60, the average of CO elimination before the bath In a Russian bath, the percentage of elimination was 3 96 In a Turkish bath of thirty minutes' duration the percentage of CO elimination was 4 01

2 The elimination of nitrogenous wastes, represented by urea, and also the elimination of total solids, was greatest in the Russian bath and least in the electric-light bath, doubtless the result of excessive skin activity

3 The amount of perspiration produced by the electric-light bath was fully double that induced by the Turkish bath in the same length of time The time required for the first appearance of perspiration was, in the electric-light bath, about one-half that in the Turkish and Russian baths The reason for this is apparent when one recalls the fact observed by Bouchard, that perspiration begins when the temperature of the blood has risen 7 degrees F above the normal In a study of the physiologic effects of the electric-light bath in 1891, when I made my first experiments upon this subject, I found the internal temperature was raised by the bath 1 6 degrees F in five and a half minutes, the surface temperature rising in the same time 2 3 degrees F

From these facts it is evident that the electric light bath raises the temperature of the blood more quickly than any other form of bath The reason for this is apparent when it is remembered that the skin and other structures of the body readily permit the transmission of the radiant energy of the electric light which, entering the body as light, becomes by the resistance which it meets transformed into heat This heat is developed in the deeper tissues instead of being slowly carried in by conduction from the surface The skin is, like glass, a poor conductor but at the same time allows the passage of radiant energy in the form of light This fact explains the readiness with which perspiration is induced by the electric-light bath

Prior to my own experiments upon this subject there had been, so far as I can ascertain, no scientific study of the physiologic effects of the electric light upon human beings William Siemens, in 1880, published a paper giving an account of some very interesting experiments which he had made for the purpose of determining the influence of the electric light upon plant life, from which he drew the following conclusions

1 That the electric light is efficacious in producing chlorophyl in the leaves of plants and in promoting growth

2 That an electric center of light equal to 1400 candles, placed at a distance of two meters from growing plants, appeared to be equal in effect to average daylight at this season of the year (March), but that more economic effects can be attained by more powerful light centers

3 That the carbonic acid and nitrogenous compounds generated in diminutive quantities in the electric arc produce no sensible deleterious effects upon plants enclosed in the same space

4 That plants do not appear to require a period of rest during the twenty-four hours of the day, but make increased and vigorous progress if subjected during the daytime to sunshine, and during the night to electric light

5 That the radiation from powerful electric arcs can be made available to counteract the effects of night frosts, and is likely to promote the setting and ripening of fruit in the open air

6 That while under the influence of the electric light, plants can stand increased stove heat without collapsing, a circumstance favorable to forcing by electric light

Numerous observations have also been made by other persons, among whom the first the first to make experiments was Hervé Mangon (*Compt Rend*, liii, 243) These experiments showed that the electric light was capable of producing the development of chlorophpyl and inducing heliotropism, or the phenomenon of turning or bending toward the light Experiments made in 1869 by Prillieux (*Compt Rend*, lxix, 410) showed that the electric light is capable of promoting assimilation in plants or decomposition of carbon dioxid and water In 1889 and 1890 a series of very important experiments were conducted at the Agricultural Station of Cornell University to show

1 That the electric light may be used under such conditions as to make it fairly comparable with sunlight in its power to promote protoplasmic activity

2 That the electric light acts as a tonic to plants so that they are able to endure adverse conditions which otherwise would cause them to collapse

3 That the electric light is a true vital stimulus, since the effect of its use at night upon plants is essentially the same as that of the longer day of the Arctics upon plants growing in those regions

These observations agree with those of Siemens, made some years before, in which it was shown that a plant exposed to ordinary daylight and six hours of electric light in addition, "far surpassed the others in darkness of green and vigorous appearance generally " Strawberries and other fruits were fully equal to those raised under ordinary conditions, and grapes were of stronger flavor than usual Melons were remarkably large and aromatic, and bananas were pronounced by excellent judges to be "unsurpassed in flavor "

It has been known for many years that workmen engaged in electric light plants, or otherwise exposed to the influence of powerful arc lights, sometimes suffer effects similar to those of sunstroke, showing that the electric light is capable of producing profound impressions upon the nervous system and the tissues of the body in general It was a knowledge of these facts that led me to undertake investigations, which finally resulted in the development of the electric light bath Having engaged in sanitarium work for more than a quarter of a century, in which time I constantly made use of the sun bath, as well as other modes of applying heat to the body, I thought it worth while to make careful investigation of the value of the electric light as a source of thermic energy I had constructed, as early as 1891, various experimental forms of baths which I have gradually perfected Some of these admit the whole body in a sitting posture, others lying down Some are adapted to the application of heat to a circumscribed portion of the body, as the trunk, the feet or the spine The accompanying cuts show the several forms of bath that I have in use at the present time These baths are now employed in various places in this country and in foreign lands

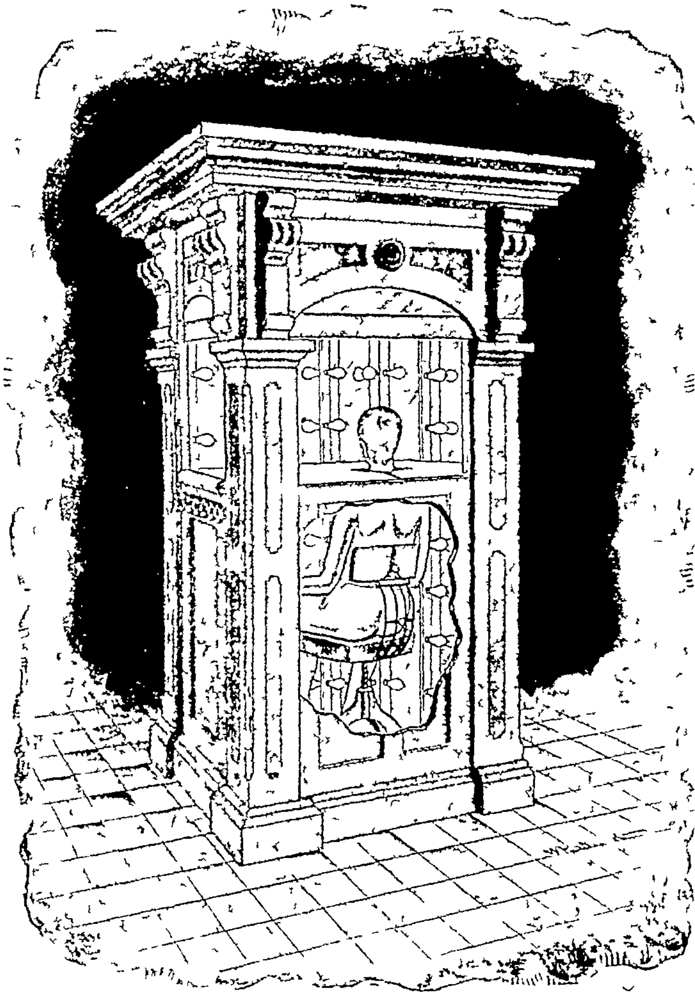


Fig 1 —Upright cabinet for electric light bath

The electric-light bath has been received into special favor in Germany Professor Winternitz, the greatest living authority on hydrotherapy, speaks as follows respecting the electric-light bath in his recently published treatise, "Physiologische der Hydrotherapie" "The electric-light bath is a method of recent origin and equal to the sun bath It was at first employed empirically (Only the arc light was thus employed, and in the most inefficient and unscientific manner) Dr Kellogg of Battle Creek has constructed one for the entire body, as well as for the separate parts thereof Various shaped cabinets are supplied with mirrors internally and a great number of electric lights In the center of a large cabinet is a chair upon which to place the patient, in a still larger cabinet an entire bed can be admitted with the patient in a lying position, thus enabling the light to be thrown on the entire body In Germany one can see in certain places, Chemnitz (Dresden) instead of the small electric lights, arc lamps (carbon) without glass, placed in the corners of the large cabinet

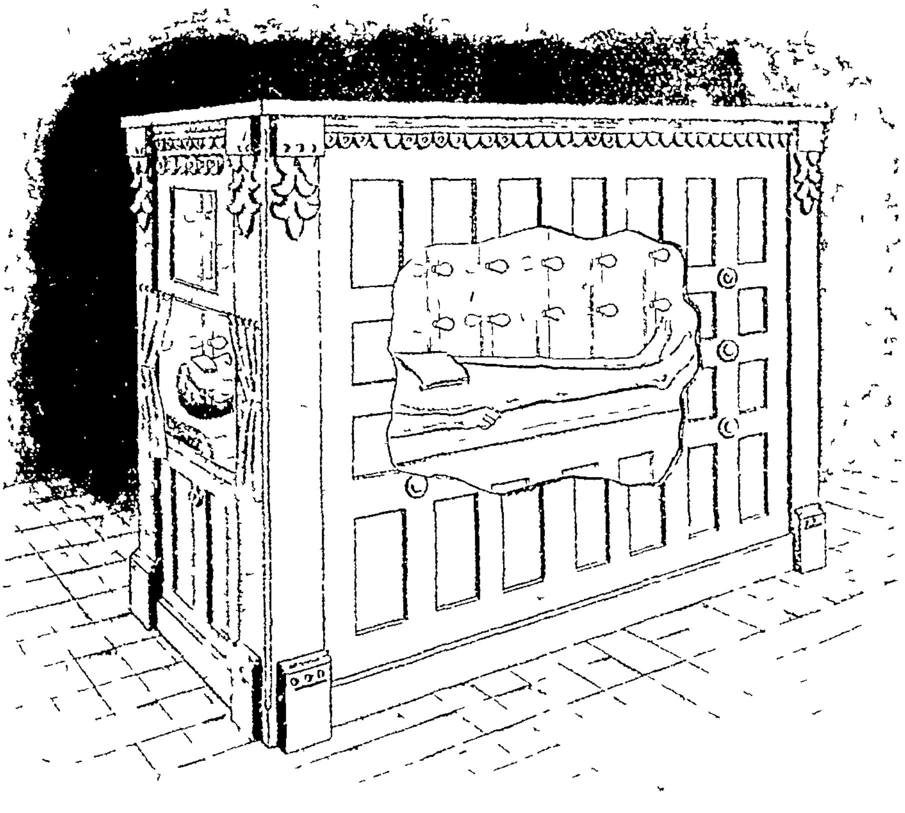


Fig 2 —Horizontal cabinet for electric light bath

"As soon as the electric source is introduced the entire body is flooded by the light, the rays are constantly reflected by the mirrors so that the entire body is very uniformly and intensely illuminated

"The temperature of the atmosphere in the cabinet varies according to the source of light, and is increased very much by the use of arc lamps (167 degrees F and over), while by the use of the incandescent or glow light, a slow increase in temperature takes place, and hardly reaches the above mentioned temperatures The increase of temperature when globe lights are used may be easily influenced by introducing more or less lamps or globes which have a greater or less degree of exhaustion Those lights which contain the greatest amount of air give more heat than those which have been more thoroughly exhausted The effect upon the body is, as far as our limited observation goes, equal to that of a vapor bath, but differs materially from it

"It has been undoubtedly demonstrated that radiant heat penetrates the tissues much better than conducted heat, and it is quite probable that cellular activity is powerfully changed by these rays of heat (either qualitatively or quantitatively) The effects of the vapor bath can be brought about in the cabinet, and the differences thus far determined are the following The giving off of the C O is more abundant than in the vapor bath, and what is especially noteworthy is that the perspiration appears very soon and at a very low temperature, and is very profuse We notice the earlier appearance at 95 degrees F (Kellogg averaging 85 degrees F), while in the vapor bath a much higher temperature is generally required to produce the same effect The time at which the perspiration in the electric-light bath appears averaged three and one fifth minutes, while in the vapor bath almost five minutes was required Finally, the quantity of perspiration in the electric-light bath is considerably larger That the rays of heat here play the most important part, and that it is not on account of the temperature of the air in the cabinet, is further shown, for instance, by the fact that the external surface of the thighs, which were directly opposed to the light, perspired much more rapidly and profusely than the inner surfaces which received only reflected rays Within ten to thirty minutes the temperature reached 101 degrees F , pulse 160, respiration 42, with symptoms of fever like condition We have thus far employed the electric-light bath, like the vapor bath, only in a few disorders, such as chlorosis, chronic rheumatism and gout, and have obtained satisfactory results More extensive experience is wanted Kellogg reports very favorable results of treatment of chlorosis, gout and a number of cases in which there is need of increased metabolism Lahman reports regarding psoriasis "As we now possess a thermic method in the electric light bath by means of which we are able to measure the exact dose, and knowing the power influence on cell-life and the entire organism, we believe this method of thermic application should receive an important place It enables us to influence a number of maladies much more rapidly, better and more intensely than we have heretofore been able to do"

Fig 6 represents the apparatus as used by Professor Winternitz Several German manufacturers are making electric light baths of different sorts, and the bath is rapidly gaining favor among German practitioners I am sorry to say that in Germany it is also being exploited to a considerable extent by charlatans

As stated in the paper above referred to, I believe that the peculiar value of the electric-light bath is due to its efficiency as a means of communicating heat to the body In the Turkish bath, heat is communicated to the body chiefly by the convection of heat and air Air, being a very poor conductor, communicates heat to the body very slowly Absorption of heat is further hindered by the skin, an excellent non-conductor, and by the rapid evaporation of moisture upon the skin, whereby it is cooled so rapidly that it is possible for a man to enter and remain for a considerable time in an atmosphere far above the boiling point I have several times been in a Turkish bath at 300 degrees and suffered no inconvenience The heat derived from the electric light, however, enters the body by radiation and not by convection

The skin, as well as the air, is to a large extent transparent to radiant heat, and the same is true of all the living tissues This is evidenced by the phenomena of transillumination By a speculum placed in the vagina or rectum, and a suitably arranged electric light of 16- or 32-candle power placed over the abdomen, one may see the interior of the pelvis illuminated and made to glow with a bright red light, the red color being due to reflection from the red corpuscles of the blood Even the bones are transparent to light when in a living state This is clearly shown by placing the hand between an electric light and the eye with the fingers in close contact The hand being placed near enough to the light, the whole finger will be seen to be illuminated by the light and not simply the soft parts Light penetrates the body in the same manner as it penetrates any other transparent or translucent medium In case of the water bath, Turkish bath, vapor and hot air baths, heat reaches the interior of the body by conduction, passing through successive layers of living tissue which, while affording great resistance to conduction of heat, readily allow the passage of the luminous rays from the incandescent film It is true that non-luminous as well as luminous heat waves are thrown off by heated bodies, the whole gamut of radiant energy in the form of heat being stated to consist of fully four octaves, more than two of which are below the red, while a whole octave is above the violet, the luminous range occupying a space only a trifle greater than what would correspond to a chord of the sixth in music But the lower octaves of these heat waves seem to be far less active than those included within the luminous area and above it I do not consider that there is any specific effect obtainable from the electric light which would not be derived from any equally efficient source of radiant heat, and on this account I should prefer to use the term the *Radiant Heat Bath* rather than *Electric-Light Bath*, as the former term leaves room for the employment of any luminous source of heat which may possess properties identical with those of the electric light

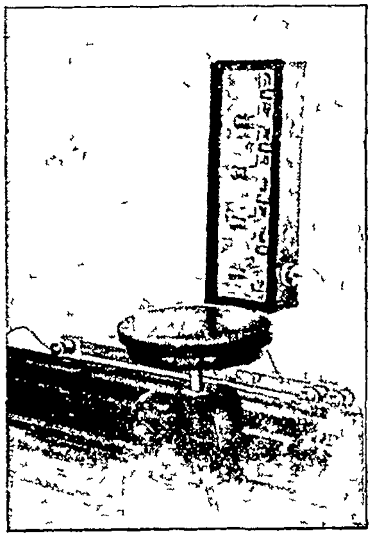


Fig 3 —Electric light spine bath

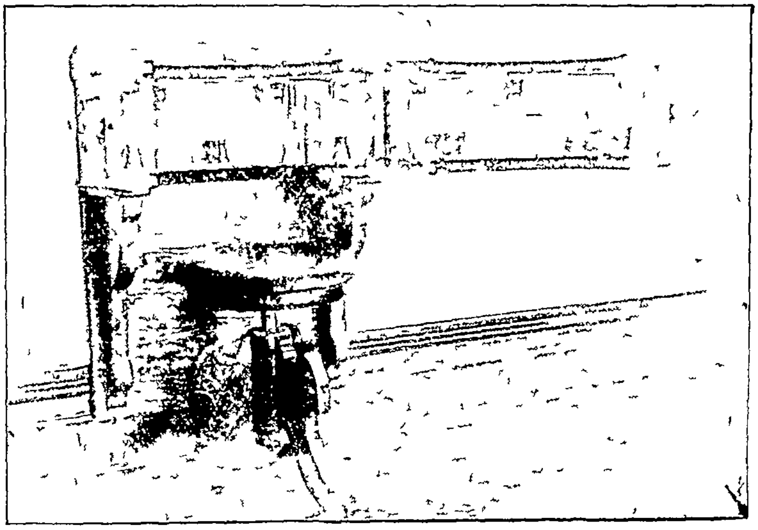


Fig 4 —Electric light trunk bath

In the incandescent electric light bath perspiration is induced at a temperature of 85 degrees F The air about the patient is usually the same as the ordinary room temperature, while the Turkish bath requires 150 to 200 degrees F, and the Russian 120 to 140 degrees F Pure air at ordinary temperature is provided for the patient in the electric-light bath, instead of the heated impure air of the Russian or Turkish bath The electric-light bath does not depend upon the effect of the heated air surrounding the patient, as in the Russian or Turkish bath, but upon the radiant energy which passes in straight lines from the incandescent filament into the patient's body without heating the air, the air about the patient being of the ordinary temperature, just as a person standing in front of a log fire out-of-doors on a frosty night may expose one side of his body to intense heat, while the other is chilled by the zero atmosphere which surrounds him

A score or more of these baths are now in use in this country and in different parts of foreign countries, and with these baths several hundred thousand applications have been made within the last few years, and the results have been such as show that it is destined to be permanently recognized as one of the most effective agencies for combating a large variety of morbid conditions

In auto-intoxication the electric-light bath is particularly helpful, as it not only stimulates elimination through the skin, but by penetrating the tissues, stimulates the processes of oxidation whereby toxins and waste matters are prepared for elimination By accomplishing the results required of it in so short a space of time the electric-light bath is comparatively free from the exhausting effects which often result from the Turkish bath, the hot immersion bath and other modes of inducing perspiration In the treatment of the rheumatic diathesis there is no agent which so promptly affords relief as the electric-light bath, since it adds to the powerful eliminative effects of heat the soothing influence of light upon sore muscles and joints In obesity, likewise, the electric-light bath proves a sovereign aid through the penetrating power of its rays, which stimulate the processes of disassimilation, while at the same time aiding the elimination of débris

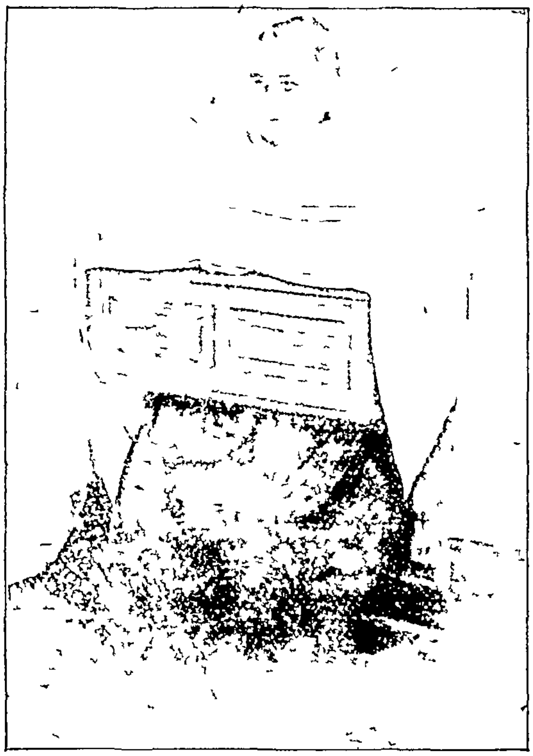


Fig 5 —Electric light trunk bath in use

Nervous headache, or migraine, now pretty generally recognized as a toxemia, yields readily to the systematic employment of the electric-light bath in connection with the proper regulation of diet The electric-light bath enjoys the great advantage over other methods of applying heat in that it produces strong atonic effects, at the same time that it encourages powerful elimination

As a prophylactic, the electric-light bath possesses a high value, especially for persons who are compelled to lead a sedentary life, such as teachers, doctors lawyers, preachers, judges and professional men generally, and to a still greater degree by the majority of women, and which necessarily results sooner or later in disease and premature death from the accumulation within the body of those poisons which are destroyed or thrown off through active exercise in the open air The electric-light bath is the best of all substitutes for muscular activity, for persons whose business necessarily keeps them confined indoors, it is the most invaluable means of maintaining sound health The importance of skin activity as a means of maintaining health is intuitively recognized by the dwellers in the Arctic region Every Laplander's house has a sweat-room connected with it, in which every member of the family takes a weekly sweat followed by a plunge into a snowbank during the cold and inactive season of the year

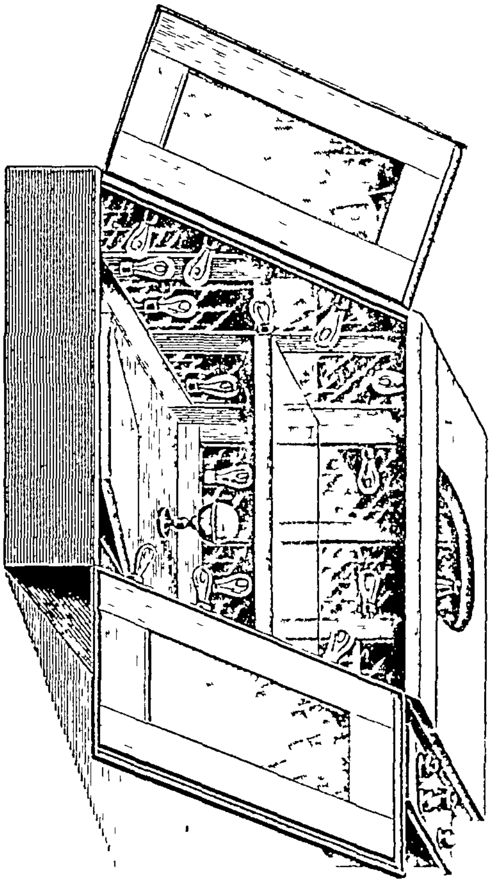


Fig 6 —Cabinet for electric bath (Winternitz)

In this country a vast number of people, especially dwellers in cities, are daily suffering from the deteriorating influence of a sedentary life, to whom the electric-light bath, combined with a cold shower bath, would prove an inestimable boon An especial advantage of the electric light bath is the comparatively small cost of installation The Turkish and Russian baths require expensive heating apparatus, furnace, steam boiler, in addition to fireman and engineer and frequent visits from plumber and steamfitter to keep everything in order The electric light bath is complete in itself, requiring no greater expense in installation than the running of two small wires for a short distance The bath can be placed in the back room of an office, or, for private use, may be placed in a bedroom, or even in a bathroom Another very great advantage is the small expense involved in the maintenance of the bath After the bath has been installed and connected with the city current, the expense for maintenance is simply the cost of the current This expense is incurred only while the bath is in actual operation, whereas the expense of the Turkish or

Russian bath is more or less continuous, as the bath must be held in constant readiness for use The usual length of an electric-light bath is from two to ten minutes, according to the effects required, the average length being about five or six minutes This would make the cost of a single bath 2½ to 3 cents There is practically no cost for repairs There is nothing to wear out in the electric-light bath except the lamps, and these are guaranteed to last a thousand hours, which would furnish an electric-light bath every day for fifteen years The electric light bath is always ready for use It is only necessary to turn on the current, and the light shines out instantly, and with its full intensity Another touch of the button, and the heat is removed wholly or in part, as quickly as it came Thus the heat may be instantly and perfectly modified to suit the requirements of each individual case

By a number of simple appliances it is possible to localize the electric-light bath at will For applying heat to circumscribed areas of the surface the electric light is superior to all other sources of heat In use it is far more convenient than the fomentation, hot bags, or any similar appliance I am sure that the radiant energy of the electric light penetrates the tissues to a depth of several inches This I proved by actual observation, as before intimated For deep-seated pain, as well as for the relief of hyperesthesias of the skin, I know of no remedy more valuable Many applications of this sort have been made by myself and my colleagues, several thousand in all, and I have constant reason to be grateful for the acquisition of this therapeutic measure, and it has afforded relief to many cases which have stubbornly resisted all other therapeutic means which I have been able to employ

After having employed this bath in several thousand cases I feel justified in urgently inviting the attention of the profession to test its value, and I feel sure that a study of its merits will lead to its practical application in the treatment of a great variety of chronic ailments, many of which so obstinately resist ordinary therapeutic measures

---

AUTO-INFECTION AND PATHOGENIC PHYSIOLOGY

Presented to the Section on Physiology and Dietetics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY C B NEWTON, M D
STAFFORD SPRINGS CONN

The increasing knowledge of pathologic anatomy and pathogenic physiology tends to evolution in therapeutics affecting our remedial agents We discover that they have more or less definite value, they have their rise and fall The drug extolled today by high authority we find does not come up to the manifesto of the manufacturing chemist and may be obsolete tomorrow When antifebrin was first introduced, a child was brought from New York City for treatment Their physician had prescribed this drug in 2-grain doses, to be given every two hours if there should be a rise in temperature After they had given it for a couple of days, the nurse noticed cyanosis and coldness of the extremities, with failing pulse This fact was a valuable one to us It is now found to have its effect as an antipyretic by depressing the heart, it has a directly paralyzing action upon the cardiac muscle There is evidence that toxicologic effects are less common after the use of acetanilid, which does not keep the temperature down quite so long as the other antipyretics To guard against possible accident, strychnia or quinin act favorably with acetanilid, on similar principle that we combine morphia with atropia When the hypodermic method of using morphia was introduced, there was much precaution used to avoid the introduction of air, which might act as an embolus and cause death, and also might have a toxic effect by way of excitation of the peripheral nerves It is now found that these dangers do not exist We have the history of a case of supposed admission of air hypodermically with morphia which was followed by immediate death, when this method was first used It cast much discredit upon the experiment, though the patient would have died if it had been taken by way of the stomach, as a result of the disease for which it was given Our pathologic studies have also caused the evolution of antisepsis The time was when an unclean skin, foul air and environment were disregarded by the surgeon Lister began the war against microbic dirt The mercuric bichlorid had its rise as a germicide, but its fall was only in the matter of lesser strength It was found to act as a poison when poured into the abdominal cavity of the strength of 1 to 1000—it was reduced to 1 to 5000 and 1 to 10,000 Carbolized water was used of a strength which acted as a toxic irritant upon the tissues The room was misty with carbolic vapor from the steam atomizer, the operation was performed in its cloud with hands dripping in the supposed germicide Then came the announcement that the spores of the germ the vapor was aimed at could not be killed with oil of vitriol or boiling water Then came iodoform, its villainous mephitic odor lingering in the operating room with the persistence of Mary's little lamb It is now found that a solution of sodium chlorid answers equally as well in washing the field of operation Lawson Tait uses water drawn from the tap, with equal success Absolute cleanliness is where we are today in the evolution of antisepsis It is a satisfaction to know that in the evolution of the treatment of idiopathic diseases we have found a definite cause—a germ, a toxic ferment, the product of which acts as a specific poison, "touching the life of all the blood corruptibly" If the microscope does not reveal to us all the toxicoses of a large family of ailments, it is because of the difficulties of chemic and microscopic study, but which are being overcome, and knowing the conditions of their inner development, we shall be able to prevent their destructive work

Of the remissions of fever, its limitations, its dangers and its recurrence as an autumnal fever has always been known, but in this generation we have the probable discovery of its cause and individuality Previously treatment could only be directed to the symptoms instead of its causation My personal observation has been that a typic case of typhoid fever as it appeared thirty years ago is now somewhat rare Since malarial fever became prevalent the latter has greatly modified it, being more remittent, less frequent hemorrhages, greater range of temperature, less delirium, quinin acting favorably, while formerly in the typhoid was no well-marked remedial effect, even contraindicated except as a tonic at the close of the fever

The Brandt treatment, or the hydropathic, calls for a bath every half-hour, fifteen minutes at a time, when the temperature is 101 or upward, tells the patient to amuse himself by rubbing his skin This will lower the surface heat, but there is objection to this course when the patient is much reduced in strength or when hemorrhage is likely to occur In any case the application of water of a temperature most agreeable to the patient is always best in its effect The most satisfactory way is to sponge the exposed body at shortest intervals, wetting only the invalid while comfortably at rest in bed, we have reduction of temperature and economy of strength which will be needed at the crisis

The Woodbridge treatment, which has attracted much attention, is fully in accord with the fact of the presence of a toxic organism in the intestinal tract The tablets contain some of the active antitoxins—hyd chlor mitis, guaiacol, menthol, thymol, eucalyptol, though the most active and safe one known—the bichlorid—he has omitted The only trouble we ever have with this latter is when given in doses so large as to offend the stomach The 1/100 grain is a better remedial dose than the 1/15 grain, quinia being almost a specific when the fever develops the periodic type Thirty years ago, when the soldiers came home from the South they quickly recovered from the chills, for the malarial wave had not swept over the Eastern States When, upon its later visitation as an epidemic, we had instead of a typhoid fever whose prominent feature was a continuous high temperature with only slight remissions at the end of each week for one long month, with delirium and hemorrhage, a new type whose greatest features were extremest cold, rapidly followed by extremest heat, then a diaphoresis unknown in other fevers The popular theory is that all pathologic conditions have origin in bacilli from without May not toxic organisms result primarily from decomposition of tissues, the warmth and moisture of the body becoming a medium, causing by their presence in the blood an auto infection from the diseased organ, thus distinguishing from germ causing diseases? There is an old saying that "no man of himself doth catch " He may have antitoxins destructive of life which he can not transmit He can contract pneumonia, not from others, but from well-known exposure to a rapidly alternating temperature and moisture, and the morbid opportunity of the winter cold A suspected pneumococcus is discovered in the lung tissue after it has reached the morphologic change, the gray or yellow hepatization, the primary cause being a sudden suppression of normal perspiration and peripheral nerve excitation It rarely occurs during the summer months, when the earth, the air and the turbid waters are swarming and humming with bacterial and insect life Only the pneumo-germ is absent By the skin, an important excretory and absorbing organ, is eliminated inorganic salts, carbonic acid, aceton, urea, alkaline lactates, and sudorates, which produce auto inflammations when interrupted and reabsorbed The water of perspiration contains these salts in perfect solution as impure water Vital statistics show plainly the increase and subsidence of fevers and diarrheas of children during the cold and hot months

In Hartford, in 1895, there was only one fatal case of typhoid fever in February, 3 in March, none in April, 7 in November and December In January, 1896, no fatal case, in July, August and September 12 fatal cases were reported For 1897, in March there were no fatal cases, in September and October 10 fatal cases Statistics illustrate the influence of the seasons in the mortality in that city of children under 5 years of age during the hot and cold months from diarrhea In March and April, 1897, there were no deaths, but in the months of July and August 40 children died of this disease In January, February March and April, 1896, there were only 3 deaths while during the months of July and August 52 deaths were reported The greatest variations of thermometer barometer and hygrometer are noticed in those States bordering on the Pacific and Atlantic coasts Mark Twain once met a gentleman who told him he was making a collection of all the kinds of weather in the world, to have a museum of meteorology Twain told him that traveling to extreme parts of the globe was useless, that if he would come East he could get all the kinds in a week

We have 3000 miles of continent on one side and 3000 miles of ocean on the other, representing the extremes of dryness and humidity From the far north we have its unvarying cold, from the south the hot breath of the tropics, the benign wind of the continent on the west and the sea-breeze of the Atlantic Ocean on the east The summer months are the most gracious and lovely of the year We are at peace with nature, even the ocean is pacific after the storms of winter The charms and splendors of the year are now complete That great meteorologic varieties increase the mortality, we recall the fatal influence of the blizzard of 1888, when the amount of sickness and number of deaths was enormous Of a continuous and intensely high temperature, we recall the death-rate in New York City in 1896 during five days of phenomenal heat, from August 9 to August 11 It was estimated that 1000 persons died directly from its effect, that the deaths of as many more were caused by it among the infants and children from the intestinal antitoxins of cholera infantum At St Louis it proved as disastrous to life as did the great tornado, Cholera would not in the same time have caused so great destruction of life as did the sun heat When the north wind came, invigorating with its ozone, the heated term was closed

Am I speaking disrespectfully of the microbic family when I say that as an exterior bacterial cause they were not in it? They were surely at the demise of tissue and disposed of its remains The question is Were they present there as a primary cause, or was death the result of retrograde metamorphosis, the decay and dissolution of the organic tissues and of the blood from active hyperemia of the brain induced by the insupportable heat of the sun's rays?

According to the experiments of Professor Bouchard, the organism in its normal, as in its pathologic state, is a receptacle and a laboratory of poisons Among these some are formed by the organism itself, others by bacterial proteids, low forms of vegetable growth which are the guests or the normal inhabitants of the intestinal tract, or are parasites at second hand and disease producing Man in this way is constantly living under the chance of being poisoned Yet this intoxication is not realized, for the organism possesses resources which enable him to escape The carbonic acid which the lungs exhale in twenty four hours, if a fractional part were retained, would act as a fatal poison

The auto-intoxication caused by the presence of bile in the blood is a familiar illustration of the toxic symptoms of bile acids affecting the cardiac ganglia, as shown by the slowing of the pulse if unattended with inflammation There is languor and muscular weakness, he feels that he is being weighed down by some grave mistake that his liver has made, really from fault of habit or diet As elimination is incessantly being effected through the kidneys, experience shows us that the most intense form of jaundice does not kill, because the coloring matter, which is more poisonous than the salts, escapes by way of the kidneys As a result of absorption grave cerebral disturbances arise from its autotoxic effects, with delirium, convulsions and coma

It is a reasonable conclusion that because of the waywardness of our organism, the diseases of auto-origin should be studied, as well as those of a more definite germinal character coming from without, it being the fate of our structure that many of the diseases to which flesh is heir are born within us

---

COLORING MATTERS AND FERMENTS

Presented to the Section on Physiology and Dietetics at the Forty ninth Annual Meeting of the American Medical Association, held at Denver, Colo , June 7-10 1898

BY J F PEAVY, M D

ASHEVILLE, N C

No other generalization which the human mind has reached has done so much to bind in organic unity the phenomena of the physical universe as the law of conservation and correlation of forces It has helped very largely, too, to clear our thinking of many vague and unscientific notions Among these is the notion of a vital principle or force Science now substitutes the more definite and logical conception of organization, itself, accomplished through natural means, appropriating, co ordinating and directing natural forces In the light of this law, the phenomena of organic nature in their physical aspects become interpretable as incidents in the ceaseless redistributions of matter and motion, of which all organic changes consist Vital changes are natural phenomena, and are linked in by physical bonds with the successions of nature The forces through which life manifests itself are drawn from and returned to the common stock in nature

The inorganic basis of organic development was laid during the variations of heat and pressure incident to the cooling and contraction of the earth Under suitable temperature and pressure conditions, the so called elements, as well as the higher inorganic compounds, as they exist in nature, have been formed and stored in the composition of the earth's crust and atmosphere For ages the earth was thus engaged in fixing a large part of her own surplus energy under the form of balanced chemic attractions, transmuting the coarser irregular motion—heat—into the finer, systematized motions upon which depend the chemic properties of substances

The properties of any substance, in the widest sense, may be defined as its stored potentiality of reacting in its own defined and characteristic way to incident forces This potentiality inheres in the molecular constitution of the substance, and the definition is true of any aggregate of matter, be it molecule or man Working with its own supply of force, our earth must have stopped short of organic evolution It could never have produced the higher differentiations of form and function—the life and beauty of organic nature A continued increment of energy is necessary with which to build organic properties or functions This is furnished by the solar radiation In the organic world, the light, heat and chemic energy derived from the sun under the form of vibratory motion constitute the source of power-supply for building up the almost infinite number and variety of forms On the other hand, the combining activity of oxygen, which, in organic nature is the complement and correlative of solar force, gives to these forms while living the capacity of vital expression, and finally restores them when dead to the condition of inorganic matter

The three general functions of life, considered in its dynamic relations, are the fixation or storage of solar energy, its redistribution and organization in securing organic balances, and its final liberation as vital, and for the most part, motor functions The first of these functions is accomplished in the vegetal world through the agency of chlorophyl in the green portions of plants, the second is carried on in both vegetal and animal forms, through the instrumentality of ferments, acting as the agents of the cellular elements, while the final liberation of this stored solar energy is accomplished through the agency of hemoglobin (and its derivatives—the coloring matter of bile and urine) and transmuted into the distinctive activities of animal life

In the economy of organic nature, chlorophyl, the green coloring matter of plants, and hemoglobin, the red coloring matter of blood, perform functions that are complementary to each other They may be considered as placed at the two extremes of a series of chemic bodies, embracing between them the various catalytic agents active in living forms The entire group exercises peculiar dynamic functions that are of the highest importance in the transformations of force effected by living organisms

Chlorophyl is concerned in building up from inorganic materials, organic compounds utilizing and storing the energy of the solar rays, while hemoglobin is concerned in oxidizing these compounds and liberating the stored up force Chlorophyl stands at the base of the nutritive processes of vegetable life and maintains a port of entry for materials and force which build up the organic world, while hemoglobin actively supports the vital manifestations of animal life and, assisted by its derivatives, the coloring matters of bile and urine, restores to inorganic nature the materials and energy which have served their ends in the animal economy Chlorophyl, by giving, as it were, specific direction to the vibrations which constitute solar light and heat tears asunder the atoms of carbon and oxygen in carbonic acid, CO and of hydrogen and oxygen in water, H_2O, freeing O, while the C and H are appropriated by the plant in the formation of carbohydrates and other oxidizable compounds, while hemoglobin supplies O, breaks up the oxidizable compounds and forms carbonic acid and water

In order to further develop our theory and to furnish a basis for its postulates, it becomes necessary to introduce some general considerations relating to the properties or functions of matter, and especially those of the metal—iron Electricity, magnetism and chemic activity are affections of matter having a common starting-point or basis in the capacity of matter for molecular polarization They are convertible each into the other two Electricity and magnetism might be called conjugate forces, so close and direct is their correlation They are inseparably associated through acting in lines perpendicular to each other To excite a molecule electrically is to excite it magnetically in a direction transverse to the line of electric excitation To magnetize a molecule in a given direction is to electrize it in a transverse direction Starting with this condition of molecular polarization, determining conditions decide what the resultant action shall be If the proper conditions be present the force propagates itself as electric currents If answering chemic bonds are within reach of the excited affinities, chemic unions and rearrangements result Should the conditions for conduction or chemic action be wanting, static electric conditions are established

Most of the elements may be arranged into an electro chemic series with the alkali metals—potassium, sodium, etc —with hydrogen at the positive end, and the halogens—bromin, chlorin, etc —with oxygen at the negative end In the middle of the series are iron and manganese These metals present a strong resemblance in the variety in color of their oxids and salts, their behavior toward oxygen, their magnetic properties, and the fact that they may occupy either the acid or the basic side of salts From this last fact we infer that they are sometimes found on one side of the middle line manifesting acid or negative affinities, sometimes on the other, manifesting basic or positive affinities, their behavior depending upon special conditions in the different cases It is by reason of their position in the electro chemic series, possessing nearly balanced affinities in opposite directions, that the condition of bipolarity may be readily induced in them and they are hence distinctively magnetic

The special office of magnetism in nature is to transmute other forces, to serve as a pivot or vehicle of change in their direction or modes of action It is itself dynamic, that is, capable of producing effects, mechanical, electric or chemic, only when the body in which the magnetic condition exists or that upon which it acts is in a state of *motion*, or the magnetism itself is varying, commencing, increasing, diminishing or ceasing, in which case the molecules themselves may be inferred to be in a state of motion A magnet is an aggregation of molecular magnets, and its action is the combined action of its molecular elements A permanent magnet may be viewed as a static condition of force, of motion arrested and stored in the form of bipolar tensions It embodies the capacity to take up mechanical motion and convert it into other modes of force This capacity has been turned to immense practical account in the magneto electric machinery so highly developed of late years The capacity to transmute mechanical motion into electro chemic force is possessed by each molecule of a substance in a condition of magnetic excitation The aggregation of molecules into magnets simply aggregates or combines their action With these facts and deductions from accepted facts before us we are now in position to further develop our theory or view of the action of these immensely important physiologic agents

The coloring matters, chlorophyl and hemoglobin, contain the magnetic metal, iron, and upon this primary property of iron depend their peculiar dynamic functions True, there is a striking contrast in the manner in which the property comes into play in the two cases, being made the basis of a function in each which undoes what the other does This contrast will appear as we proceed The action of chlorophyl [illegible] dynamolytic process comparable to electroly[illegible] fact, virtually the same The iron of chloro[illegible] magnetized and set in motion by the energy of the solar rays Thus are developed what are essentially rotating magnets The condition of magnetization and correlated electro-chemic excitement with rotary motion in the atoms or particles of iron is a transitional condition of the force, which, received on the one hand as vibratory motion, is delivered on the other as electro chemic force This electro chemic force is expended in tearing apart the atoms of C and O in CO and of H and O in H O, and become posited as it were, in the atoms of O on the one hand, and of C and H on the other, to be again delivered up as heat, mechanic motion, or muscular and other forms of vital activity when these atoms again meet at the other border of the organic world This attractive force of the atoms of H and C on the hydrocarbonaceous compounds formed for the C which has been removed and diffused in the atmosphere, is the exact equivalent of the solar energy used in parting them, and constitutes the ultimate basis of all force manisfestation in organic nature

Plants utilizing the energy of solar light and heat manufacture, out of materials drawn from the atmosphere and taken up from the soil by the roots, a variety of compounds—starch, fats, albumin etc A part of these compounds fall from the elevated plane of "proximate principles' to the condition of simple binary compounds, the measure of which retrograde metamorphosis is the amount of CO exhaled by the plants The descent from a higher to a lower plane liberates force, which, in conjunction, perhaps, with heat derived from external sources, and, acting through the agency of diastase and other so called catalytic agents lifts another part of these compounds to the grade of organized vegetable tissue The greater part, however, remains as reserve stores of material and force to be either used by the plant itself in the formation of parts subsequently developed, or to serve as food for animals

Animals receive, ready prepared for them in the vegetable kingdom, the material for their nutrition and structure embodying the capacities for the force evolutions which constitute the expressions of life True, much of this material is raised to higher planes, substances of exceeding complexity, of high molecular weight, being required to meet the demands of the extreme differentiation of form and function in the higher orders of animal life In this lifting of pabulum for the formation and maintenance of organic structure, force is consumed, contributed no doubt by the retrograde metamorphosis of other constituents of the food, but rendered available through the agency of so-called ferments Some of these are in all probability, products of the ductless glands and as yet but little known The great and striking characteristic, however, of animal as distinguished from vegetable life, lies in the fact that its chemic processes are, in the main, reductions of matter with evolutions of force which find expression as heat sensori motor activity, etc At the top of the scale of organic nature, we find beginning processes the exact reverse and complements of those we found initiated by solar energy through the agency of chlorophyl in the green leaves of plants These processes end in the complete restoration to inorganic nature of the matter and forces which have performed their parts in the mystic play of t[illegible] nscrutable [illegible] thing we call life

[illegible] corpusc[illegible] blood, by virtue of the [illegible] exists [illegible] onstituent hemoglobin, take up oxygen from the air in the lungs and deliver it up in the capillary circulation, returning with their hemoglobin in the reduced condition In making the circuit from the lungs, through the capillaries and back to the lungs, the hemoglobin changes from the bright red of highest oxygenation to the violet of lowest reduction, passing, no doubt, through the whole gamut of colors When it leaves the lungs it occupies the red or dynamic end, when it returns to the lungs, the violet or chemic end of the chromatic scale, its color at each stage of the declension being the index to its dynamic capacity At the point of lowest reduction its dynamic capacity is a minimum, its chemic affinity for oxygen after it reaches the lungs, a maximum At the point of highest oxygenation, its chemic affinity is satisfied, its dynamic capacity a maximum In the capillary circulation this chemico-dynamic force —of which hemoglobin in its transit from the lungs is the vehicle—is reconverted into heat and motion by the impact, as it were, of atoms which had been torn apart by the dynamolytic action of chlorophyl in the green leaves of plants

Chlorophyl and hemoglobin, with the other catalytic agents between them, require for their physiologic activity certain necessary conditions One of these is always heat or other available force in the ascending, constructive, lifting, force-consuming series on the one hand, another the presence of oxygen with its capacity of unlocking force in the descending, destructive, force-releasing series on the other Solar energy, either as the direct rays of the sun or as diffused daylight, is necessary, furnishing as it does the working force for the activity of chlorophyl This activity, with the processes which depend upon it, ceases in the dark

The permanent withdrawal of light starves green-leaved plants to death True, it has been shown that plants will flourish in the electric light with the exclusion of the sun's rays, but the electric light furnishes energy under the form of vibratory motion practically identical in character with solar light Diastase, which initiates and helps to carry forward the process of germination in seeds, is inert until supplied with the proper degree of heat The same thing can with safety be affirmed of other agents related to diastase and concerned like it in constructive metabolism

The nature and mode of operation of the various substances which serve to transmute heat into constructive energy under the directive agency of animal and vegetable organisms appear to me to furnish a rich field for practical investigation The alkalinity of the blood and tissues furnishes an all-important condition for hemoglobin in the animal economy The alkalinity of the blood differs in degree at the two extremities of the circuit In the lungs it reaches its highest degree from the exhalation of carbonic acid In the capillary circulation it becomes less alkaline from its absorption of the products of oxidation In passing from the lungs to the capillaries the iron of hemoglobin crosses its equator between acid and basic affinities In returning to the lungs it recrosses to its region of positive attractions In the lungs it is electro-positive, and unites with oxygen, which is electro-negative In the capillaries of the various organs and tissues of the body it becomes electro negative, repelling its oxygen The oxygen itself is doubtless converted into its allotropic form, ozone, that is, the atoms of O_2, the ordinary condition of oxygen, are dissociated and polarized in the same direction In this condition they can not unite with each other, but possess in the highest degree the affinities of oxygen

In discussing the action of chlorophyl we figured the iron as in a condition of balanced bipolar tension, performing the part of rotating magnets, appropriating the solar radiation and converting it into electrochemic force, thereby tearing apart the atoms of O and C in CO_2 and of H and O in H_2O and positing the energy of O, on the one hand, and of C and H on the other, under the form of chemic affinity In the case of hemoglobin, we view the iron as oscillating between acid and basic affinities, being in the one case, in the condition of electro positive accentuation, uniting in the lungs with the electro negative oxygen, while in the other case, through a change of chemic environment, it swings into the opposite direction of electro negative accentuation, throwing off the electronegative oxygen, the resulting oxidation reconverting the chemic affinity into heat and other forms of energy It would seem, however, that the alkalinity of the blood, with its changes in degree at the extremes of the circuit, does not absolutely endow hemoglobin with its polarity or cause of itself alone the reversals of affinities Blood outside the body will for a time manifest this property, as shown by its changes in color from red to purple, or from purple to red, according as the oxygen is excluded or supplied Hemoglobin, if extracted unchanged from fresh blood, will behave in the same peculiar way toward oxygen Even the hematin in blood-stains possesses a remnant of this property An examination into the *rationale* of the guaiacum test for blood discloses this fact Peroxid of hydrogen does not by itself oxidize a solution of guaiacum, producing the characteristic blue reaction, because its loosely held oxygen is liberated in the condition of antozone, and only agents liberating oxygen in the opposite or ozonic condition can produce the reaction If hematin be present, however, the reaction occurs, the antozone undergoing a conversion into ozone This seems to indicate that the iron, retaining something of its physiologic setting in the hematin molecule, retains also something of its physiologic power

The alkalinity of the blood, however, with its changes in degree at the extremes of the circuit is necessary to the performance of the physiologic function of the red corpuscles by determining the time and place at which the reversals of the oxygen affinities of hemoglobin occur In the lungs, where alone oxygen is obtainable, the highest oxygen affinity of hemoglobin is thereby developed In the capillaries of the various organs and tissues of the body, where oxygen is needed to meet the demands of the ceaseless change, the highest repulsive force of hemoglobin for oxygen is thus brought into action When the blood-cells die, their hemoglobin undergoes a conversion into a substance which has been called "hematoidin," the more complex molecule of the former breaking up and the atoms of C, H, N and O rearranging themselves into the simpler molecules of the latter This substance is believed to be identical with bilirubin, the yellow-red coloring matter of bile The transformation of hemoglobin into bilirubin appears to be a spontaneous change, taking place under the conditions furnished in the blood of the living animal when the blood cells die

Bilirubin has been found in old extravasations of blood, evidently produced upon the spot by transformation of hemoglobin. If red-blood cells be broken up and made to assume a liquid form by alternate freezing and thawing, and the solution be injected into the veins of an animal, the operation is followed by a discharge of bilirubin in the urine. Under ordinary conditions, the liver extracts the coloring matter from the blood-cells as fast as they die, completing their disintegration. Under certain abnormal conditions the liver is unable to keep up with the work of removing the disengaged and transformed coloring matter, and jaundice supervenes. Probably most forms of hematogenous jaundice are due to unusual or rapid death of blood-cells, either from direct poisoning or depraved nutrition and consequent excessive liberation and transformation of coloring matter. Here the liver, though acting perhaps with its ordinary capacity, is incompetent to rid the system of the excess.

If the disorganization of the blood is very rapid or profound, such grave conditions as hemorrhage, ecchymoses, hematuria or hemoglobinuria develop. Various toxic agents may interfere directly with the activity of the liver-cells and lead to abnormal retention of coloring matter. Probably the jaundice which follows phosphorus poisoning is the joint result of rapid destruction of blood-cells and direct toxic action on the cells of the liver. The moderate jaundice, which usually exists in connection with cirrhosis of the liver, is due to the incapacity of that organ, from pressure on its cells and diminished blood-supply, to remove the coloring matter with sufficient rapidity, though the death-rate among the cells may be only ordinary. Here, however, the increased discharge by the kidneys compensates in a measure for this impaired function of the liver, and the jaundice is not apt to be marked. Jaundice from catarrh of the bile ducts or other obstructive conditions has for us no special interest in this connection. The coloring matter of bile as a physiologic agent occupies a place between the red coloring matter of blood and the green coloring matter of plants, and performs functions related to that of each, taking part in the vegetative processes of nutrition on the one hand, and the oxidations of animal life on the other. It is a fact, too, worthy of note, that the chemic and spectroscopic properties of this substance indicate very interesting and significant relations to hemoglobin on the one side and chlorophyl on the other. It exists in *two conditions*—bilirubin and biliverdin, the red and the green matter of bile. The difference between them is one of hydration and oxygenation, biliverdin being derived from bilirubin by the assumption of a molecule of water and an extra atom of oxygen, thus

$$\underset{\text{(Bilirubin.)}}{C_{16}H_{18}N_2O_3} + H_2O + O = \underset{\text{(Biliverdin.)}}{C_{16}H_{20}N_2O_5}$$

Bilirubin is formed from biliverdin by reversing the process

$$C_{16}H_{20}N_2O_5 - (H_2O + O) = C_{16}H_{18}N_2O_3$$

Permit me at this point to state some facts which are considered settled by experimental evidence. Bile drawn directly from the bile-ducts during digestion and absorption is green, its coloring matter being in the condition of biliverdin. Bile obtained during the interval of digestion, or which has been stored in the gall-bladder, is yellowish red, its coloring matter being in the condition of bilirubin. If yellowish red bile be shaken up with air or exposed to the action of an oxidizing agent, as nitric acid or iodin, the color changes to green, then, if oxygen be excluded by placing it in a bottle and corking tightly, the color changes to yellowish red again. This fact suggests an analogy to oxyhemoglobin and reduced hemoglobin.

Glucose, $C_6H_{12}O_6$, the product of the digestion of starch and saccharine substances, is deposited in the liver as glycogen or liver starch, $C_6H_{10}O_5$, undergoing a dehydration. After digestion and absorption have been completed, this material is given off as required by the needs of the system undergoing a rehydration into glucose. There is reason to believe that albuminose—the product of the digestion of the albuminous elements of the food—undergoes a reduction in the liver to blood albumin, losing an atom of oxygen. We have already found reason to conclude that the conversion of hemoglobin into bilirubin is the normal transformation which follows upon the decay of the blood cells under the conditions furnished in the circulating blood.

With these facts before us we venture to suggest further that, while digestion and absorption are in progress, the liver-cells, by a selective action upon the coloring matter of worn out corpuscles on the one hand, and the glucose and albuminose of the portal vein upon the other, bring these substances into intimate relations with each other effecting the interchange between them of water and oxygen, converting glucose into glycogen, albuminose into blood albumin, bilirubin into biliverdin. The green bile formed under these conditions is conveyed directly into the alimentary canal, and doubtless takes part in the hydrations and oxidations going on there. Having required these important and onerous duties of the coloring matter of bile, it might be suggested that we desist from further impositions. However, there are facts still unexplained, conditions unsatisfied, in our problem. The facility with which the bile coloring matter, chameleon like, changes its hue, makes it a very accommodating substance. The secretion of bile continues during the intervals of digestion. A small reserve is stored in the gall-bladder, but the greater part finds its way into the intestine. Its color is now yellow-red the conditions for forming green bile having ceased with the completion of digestion and absorption. The conditions in fact are reversed. Glucose, while undergoing deposition in the liver, required to be dehydrated into glycogen. In order to be available for the needs of the organism, it must be rehydrated and rendered again diffusible. The necessities of the case require us to lay this duty too upon the accommodating coloring matter. During the intervals of digestion yellow red bile continues to find its way into the empty intestine, and is for the most part reabsorbed. In the portal vein the conditions are now present for the immediate conversion of bilirubin into biliverdin. We have already noted that if bilirubin in alkaline solution be shaken up with oxygen or atmospheric air, it is converted into biliverdin. Equivalent conditions are present in the radicles of the portal vein, that is the blood is an alkaline menstruum and the hemoglobin of the red corpuscles is liberating oxygen. It is, I think a reasonable assumption that the blood should carry some surplus of oxygen through the absorbent villi during the intervals of digestion since during the height of physiologic activity large quantities must be needed to meet the demand. Having the oxygen at hand, the bilirubin appropriates water from its solvent just as it does when shaken up in alkaline solution, with oxygen or air In this way it is changed into biliverdin Now, re-entering the liver, it comes in relation with the glycogen and yields up to it its water, becoming reconverted into bilirubin and reconverting glycogen into glucose The atom of oxygen associated with the molecule of water, and liberated with it, is no doubt applied to the final oxidation of nitrogenous bodies which have served their ends in the economy Of this reaction the urea formed in the liver is the product The liver may be regarded as a chemico-vital laboratory in which certain elements of the food are prepared for assimilation, while others which have yielded up their capacity for meeting the demands of structure and function are prepared for elimination The coloring matter serves the liver-cells in effecting these transformations by acting as a carrier of water and oxygen

All honor to the men who are devoting themselves to arduous experimental work Yet it is as much legitimate scientific progress to deduce the meaning of a fact as it is to get the fact It is believed that the view presented in this paper is logical, consistent and true, resting upon a basis of accepted science As an interpretation, then, of facts reached—to be sure, through the labors of others—it is hoped that it presents claims worthy of consideration

DISCUSSION

Dr Peavy—In closing this discussion I have nothing to add directly to the material contained in the paper itself I am glad that Dr Van Zandt has referred to the fact that hitherto no satisfactory explanation has been proposed of the mechanism by which the chlorophyl bearing cells of plants decompose carbon dioxid and water, nor of the *rationale* of the oxygen carrying and distributing function of the red blood cells These very difficulties first led to the investigations which resulted in the development of the view here presented That the solutions offered are the true ones, my own mind no longer entertains a doubt

In the decompositions effected by light in the green leaves of plants we have no more disturbance of unstable chemic balances, but the dissolution by a definite mechanism of the firmest chemic bonds That the energy expended in effecting these decompositions is derived from the sun's rays, and is represented in the attraction of the divorced atoms for each other, is entirely beyond question The process is clearly a conversion of mechanical into chemic energy The postulate that this conversion and electro chemic decomposition are accomplished through magnetization of the iron contained in the vegetal cells appears not only fully warranted by the premises adduced in the body of the paper, but it seems to be the only possible mechanism of the process The facts of electrolytic decomposition and of the magneto electric conversion of energy appear of themselves sufficient to render the conclusion necessary

The theory that the oxygen carrying and distributing capacity of hemoglobin is dependent upon a property of its iron, allowing it to exercise either positive or negative affinities under different conditions, appears also to satisfy the logical demands of the problem, and be fully justified by the facts of physics, chemistry and physiology In proposing this explanation we are assuming no new property for iron That it does manifest sometimes acid and sometimes basic proclivities is a well established fact Its behavior in this regard is determined by its chemic environment

Manganese, so closely related to iron in the electro chemic position and properties, shares with it this oxygen carrying function in the blood The so called catalytic action of black oxid of manganese, as illustrated in laboratory experiments, but shows the capacity of this substance under molecular agitation heat—to take on and give off oxygen Indeed, in certain chemic reactions manganese salts play the part of intermediary bodies, acting as carriers of oxygen, taking it from one and giving it to another of two bodies without being themselves directly affected in the reaction

Blood outside the body, as long as it retains its vitality, will turn purple if oxygen be excluded, and then red again if oxygen be supplied This shows that even without the special conditions furnished in the circulating blood, hemoglobin, the color of which depends upon its degree of oxygenation, tends spontaneously to take on oxygen, liberate it and renew its supply As far as this part of our theory is concerned, the proof amounts to scarcely less than practical demonstration

Dr Van Zant might have added that physiologists have never hitherto furnished the bile with a function in keeping with the quantity and constancy of this secretion Doubtless it performs some secondary part in intestinal digestion—the green bile formed during the progress of digestion and absorption taking part, it may be in the hydrations and oxidations going on in the alimentary canal at that time Intestinal digestion, however, is fairly well performed without the presence of bile, so we conclude that it is not primarily a digestive secretion That it is not an excrementitious product is evident from its reabsorption from the intestine during the intervals of digestion If the bile flow of the dog be diverted from the alimentary canal and discharged externally through a fistula, it is found that, while the appetite remains good and digestion is well performed, the animal soon begins to waste and finally dies from disordered nutrition A significant fact is that the bile flow itself rapidly diminishes in quantity and becomes very scant From this experiment we conclude that the bile is essential in some way to the nutrition of the body, and that its partial reabsorption is necessary to furnish part of the materials for continued secretion So we seem forced to the conclusion that bile performs its most important function in the liver itself, and that even after it reaches the intestine in the intervals of digestion, it has not yet consummated its work Whether the task I laid for it will meet with approval of physiologists generally remains to be seen I wish to disclaim any intention of arrogating to the coloring matter the whole function of the bile Only such part of it as is specially fitted by nature to perform and which is in general line with the work of this class of physiologic agents do I claim for its own specific function

---

METHOD OF TEACHING MATERIA MEDICA

WITH SPECIAL REFERENCE TO DENTAL STUDENTS

Presented to the Section on Stomatology at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY WARREN B HILL, M D
PROFESSOR OF MATERIA MEDICA AND THERAPEUTICS, MILWAUKEE MEDICAL COLLEGE
MILWAUKEE WIS

This subject, like many others, has two aspects the real and the ideal Dentistry is in a transition period Some years ago it was almost a mechanical art, but there have always been in the profession men who held high ideals, and through their earnestness, enthusiasm and work it is being rapidly transformed into an ideal profession In its highest sense dentistry should be, and is, a specialism in medicine, and the work of a number of men in this country has demonstrated that the best results and greatest achievements may be derived by making it so

There is a tendency in the civilized world toward specialization It has been found that higher attainments can thus be reached But on the other hand, through narrowing the field of work, we are apt to contract the mind, and thus we find that which we gain in skill compensated by a loss in broader comprehension It becomes necessary, therefore, when training a mind for specialty work, that we have a broad foundation upon which to build It is not sufficient that one entering the study of dentistry should have acquired a certain amount of knowledge of English, mathematics and physics, but his mind should have been trained in broader fields, so that the concentration upon this single study will not have the effect of dwarfing the intellect and narrowing the mind

The fundamentals of medicine should have been mastered early in his dental study, and his mind have been trained in grappling with the more abstruse problems in medicine, before he is obliged to concentrate his entire attention upon a portion of the oral cavity I believe this proposition to be true from the standpoint of an educator, whose business it is to build up and round off a symmetric mind and character, and I believe it is also true from the standpoint of the practitioner, who, to be successful, must be familiar with all the factors that bear more or less remotely upon the conditions which he is treating Thus, if we could teach dentistry according to this ideal, the question, "How much materia medica shall we teach?" would be answered thus "All that is taught in the study of medicine" However, the obstacles that present themselves are a lack of time in the curriculum and a lack of disposition on the part of the student

In a three-year course of six or seven months each year the average dental student is overworked in mastering the fundamentals of dentistry and medicine, and in doing the amount of laboratory and infirmary work necessary to make him proficient It has become necessary, therefore, to abridge the work in materia medica, as well as in anatomy and physiology, in order that they may have sufficient time for the dental laboratory In our institution there are some who are better endowed by nature, and who have a higher ambition than the average student Realizing the advantages that present themselves by attending a school where both medicine and dentistry are taught, they are taking the full course in materia medica, therapeutics, anatomy, etc , thus completing, in a large measure, the fundamental work in medicine, in the anticipation of earning a medical degree, as well as that of D D S , in order that they may be better equipped for their practice and at the same time they are rounding out their education and giving their minds a broader development

For the average student the number of remedies in materia medica must necessarily be limited The escharotics, the antiseptics and those that are used particularly in their everyday practice must have precedence, but there are many others whose actions have a remote influence upon the mouth and its diseases, which must also be taught All of those affecting nutrition and assimilation have a direct interest to the dentist, and the art of prescribing should not be neglected, as it sometimes is Having selected the few remedies we wish to teach, what to teach about them should be our next concern ' All that we know is hardly too much Their pharmacology is essential, their constituents and chemistry should be taught, and their physiologic action in its broadest sense should not be neglected, and then their therapeutic value in dentistry, as well as in medicine, should be the cap sheaf of our investigation

The question of how we shall teach it is a much more difficult one Teachers are born, not made, and each teacher must adopt a method adapted to himself In my work I have found the pharmacology of a drug can best be taught by object-lesson The laboratory may be provided or improvised, it is only necessary that the student shall have an actual living acquaintance with the drug The physiologic and therapeutic action can best be taught by didactic lectures, wherein the student may partake of the enthusiasm of his teacher, and may be made to feel, through that enthusiasm, the effects on long and personal experience with the remedy, which will inspire him with confidence—a mighty adjuvant in the application of drugs There is much, however, that should be eliminated from our lectures The names preparations, composition, chemic reaction doses etc should be supplied in advance, that the student may commit them to memory, and have regular recitations and drill on them This work should precede, or go hand in hand with, the laboratory work I have never found a text book which taught just what I wished to teach of any particular drug, nor one which treated only of those drugs which I esteemed of greatest importance to the student I, therefore, have adopted a system of preparing skeleton notes which embrace those things that the student must commit to memory, furnishing mimeograph copies to each of the students, and leave for my didactic lectures that which I feel I could enliven by my personality I have followed this course for three years, and the increased proficiency of the classes since its adoption has demonstrated to me the efficacy of the plan

Having familiarized himself with the pharmacology of a drug, the student now comes to the most interesting part of his study He has been grounded in his physiology, his chemistry, and his pathology, and now he is enabled to see the practical applicability of this knowledge in the application of the remedies to diseases After due consideration, I have omitted to place upon my skeleton notes anything of the physiologic action or therapeutics of a drug, because they are not to be memorized, but to be reasoned out Just how a drug acts primarily upon one organ, and through some of the great systems of the body results in a secondary action upon another organ, and drawing the parallelisms between the action of remedies and the pathologic conditions in diseases is as fascinating a study to the student in medicine or dentistry as is the illustrating of a natural law in physics This is the logic of medicine

In teaching therapeutics it is not sufficient to tell what diseases may be cured, and which harmed by the administration of a given drug It makes a fascinating study for a student to take a disease, hunt out its etiology, trace the pathologic changes that take place, for the purpose of selecting a remedy that will overcome the conditions known to be present, eradicate the etiologic factor, or to build up certain structures in order to offset the destructive processes of the disease

In my work this is still further supplemented by a course of applied therapeutics, in which we have the patient before us We now can no longer follow the classic lines laid down in books, but must take diseases as find them, modified by the various agencies that environ the human animal The pathologic conditions must here be studied out and remedies found that will logically supply the indications If, perchance, in this course the student has witnessed diseases treated which are of little interest to him as far as he is concerned in his practice, he may have been given a lesson in mind culture that will serve him in good stead The power of reasoning from effect to cause, and back to effect, is the best mental discipline for cultivating practical minds

---

Potion for Whooping Cough (L Concetti) —Resorcin 2 gm , antipyrin 1 gm , aq dest 70 gm , syrup of codein 10 gm syrup of cedar 20 gm , tincture of opium 3 drops, tincture of belladonna 8 drops A teaspoonful every hour or second hour to infants, a dessert-spoonful for children from one to three, and a tablespoonful for children over three —*Semaine Méd* , November 30

NOISE AS A FACTOR IN THE CAUSATION OF DISEASE

Presented to the Section on Physiology and Dietetics at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver Colo June 7-10 1898

BY ROBERT W HASTINGS, A M , M D
BROOKLINE MASS

Modern life has many peculiarities, and in his consideration of the influences which tend to the health or disease of the people, the physician must study carefully these features which may or may not introduce new factors Among them, none is more frequently quoted than the tendency to group in large cities So well accepted is this tendency that we need not give any figures to support the statement

Many grave hygienic problems have resulted from this congestion of human life Their solution has called for the most exact scientific research, careful formulation of sanitary laws and rigid enforcement of them As a result, the dreadful scourges and epidemics which so often decimate the cities of the old world, do not obtain a foothold among us Yet, disease is by no means abolished, though the average life may be a little lengthened All too frequently life is cut short from preventable causes, and almost invariably one or more senses or faculties are impaired early in life I ask your attention to one of the more obscure factors in the causation of disease which remains and in some lines is on the increase Of scientific research in regard to it there has been very little The reasons for this will be obvious Still less attention has been paid to legal restrictions because of it

What is noise? It is difficult to sharply separate "noise" from "sound " Ganot says "Sound is the peculiar sensation excited in the organ of hearing by the vibratory motion of bodies, when the motion is transmitted to the ear through the elastic medium " "Sound, properly so called, or musical sound, is that which produces a continuous sensation, and the musical value of which can be estimated, while noise is either a sound of too short duration, like the report of a cannon, or else it is a confused mixture of many discordant sounds like the rolling of thunder or the noise of the waves" Whoever has lived beside streets can give better illustrations than these, for instance, the passing of a heavy team loaded with street railway iron, or of a series of teams loaded with stone or coal To such an one the "rolling of thunder' or the "noise of the waves" is like music Now I do not suppose any one will deny that city life has in it far more kinds of noise than country life—not more sounds but more noises And these noises are intensified and repeated by the high walls against which they strike and from which they rebound again and again Nor are the street noises by any means all of the story It is an unusual thing to be able to converse easily in any large factory The persistent clatter, clatter of the machinery drowns the human voice almost completely It is not the sound of the shoemaker, spinner, weaver or blacksmith in his or her country shop, but the confusion of a score or hundred similar sounds joined to a multitude of others made necessary by the machines and shafting

Our consideration of what has been and is the effect of this noise incident to the great change in manner of life, naturally divides into three portions 1, the effect of noise on the ear itself, 2, the effect on previously known or existing diseases, 3, its power to originate disease or in any way affect the health of the general community

With reference to the first, some careful observations have been made, for there is one class of men who work in the midst of such din that the attention of aurists has been drawn to them These are the boiler-makers The constant reverberation of sounds produced by hammering large pieces of iron in a short time produces boiler-makers' deafness St John Roosa says, "boiler-makers are nearly all hard of hearing " "Those who work on the inside of boilers as riveters and who have shorter waves of sound striking upon their ears, lose their hearing most completely " Just what the lesion is, is not wholly decided The author above cited thinks it is a hyperemia of the ultimate nerve fibers of the cochlea, and declares that "an acoustic neuritis may be produced by noise just as well as an optic neuritis by exposure to a glare " Dr E E Holt records observations of deafness in boiler-makers, ship caulkers, etc,, but thinks the lesion is a middle-ear catarrh

Dr Roosa's theory seems to us more reasonable, however Indeed, he has found that people with chronic middle ear trouble hear better in the boiler factory, and ascribes this to the unusual excitation of the nerve Doubtless many of you could give testimony of cases where deafness has arisen in persons exposed to constant loud noise Boiler-makers and ship-caulkers are by no means the only ones who work in the midst of a din The observations above noted are good as far as they go, but there is room for far more study in this line This investigation, in order to be of value, must be carried on by experts who shall be able to separate results produced by noise from those due to other causes

If we turn to the second division of our subject we find even less scientific research, but a general unanimity of professional opinion When once it becomes evident that a patient is to be seriously ill, almost the first requisite is a quiet room Thus Billroth advises for feverish and nervous patients a room where such noises as hammering, rattling of carriages, etc , can not be heard Wise directs the selection of a sick-room on the second story, or higher in cities, and where it may be as quiet as possible Many other authors might be quoted, but we all believe in it When a patient—old, young or middle aged—is *sick*, we want him in a quiet place Now, why? What effect does noise have? Perhaps the chief result of noise is to prevent sleep, and sleep is an absolute necessity to bodily or mental recuperation Indeed, Menander has said that all diseases are curable by sleep We do not believe that, but we do realize its great value as a remedial agent During sleep the brain becomes anemic, and the vessels of the skin dilate Experiment has shown, too, that every sudden noise causes an increase of the volume of the brain, even though the sleeper is not awakened Each such change produces a corresponding effect upon the nerve centers and checks or prevents the processes of plastic nutrition Thus, though the patient may become accustomed to the noise, the evil effect will be present to a greater or less extent Quiet is desirable and may be necessary, not only as a means to secure sleep but to allow rest When the blood-vessels are being continually contracted and relaxed according as the reflex centers are excited by noises or not, the disturbance in the supply of food to the diseased part is of grave importance A vicious circle is soon easily established, and the noise which at first seemed such a little factor becomes a very large one

Suppose the patient *does* get a fair allowance of quiet sleep, if the other part of the day is disturbed by various noises, the course of the disease is thereby aggravated The prevention of the ringing of neighboring church bells or of loud traffic along the street when a great statesman is ill, are familiar illustrations of the popular recognition of the desirability of quiet for sick people, it is just as desirable for any poor or obscure patient

All this is true of any acute systemic disease If, now, we turn to the chronic diseases or to those which have to do chiefly with the nerves or the great nerve centers, we find our factor even more important Details are unnecessary Every physician knows the effect — sometimes fatal — of a sudden fright upon a chronic heart case, and a fright is as likely to come from a noise as from anything Every physician knows, too, the steady failure of a nervous case, due to the constant repeating of noises about the patient Between these two extremes we may find nearly every diseased condition of men—digestive, circulatory, nervous or local—each showing an aggravation if exposed to noise

But does noise originate any diseases itself, and what effect, if any, does it have upon the general health of the community? We have already mentioned the diseases of the ear Manifestly, as has already been indicated, contagious diseases can only be affected secondarily Scientific research may yet discover, however, that sound-waves, like light-waves, do have a direct influence upon the growth of germs It is difficult to see how any direct etiologic relation between noise and disease of the respiratory system can be traced The same may be said of the circulatory, renal and digestive systems Diseases of any of these portions of the body may, however, be secondary to nervous diseases But does noise really cause any disease of the nervous system? Tyson describes nearly one hundred and fifty different forms of nervous disease, but to no one of them does he assign noise as a cause, with the possible exception of epilepsy, hysteria and neurasthenia An epileptic convulsion or a hysteric attack may be due to a sudden fright, and this is likely to arise from an unusual noise Neurasthenia takes its origin in the constant excitation and consequent exhaustion of the nerve centers Dr F X Dercum has very successfully demonstrated this explanation of neurasthenia No excitant is more frequent, none more persistent than noise Moreover, so common is this disease in our country that it has aptly been called "Americanitis" Chapin says "as a factor in the production of insanity, neurasthenia must be considered the most important The largest proportion of hospital admissions, received in an acute stage, have a history of neurasthenia It is fitly called the soil out of which insanity develops" We all recognize insanity as one of the great evils threatening modern life Do these authoritative words establish an etiologic relation between insanity and noise? But what of the relation of noise to the usual every day life, usually esteemed healthy Who shall say how far the high-strung nervous, active temperament of the American people is due to the noise with which they choose to surround their daily lives? Surely, it is a factor which can not be entirely disregarded Only physicians know how important this temperament is in the inception, course and convalescence of disease

Finally, we may properly consider the children They are notoriously the cause of noise What effect does noise have upon them? Holt says functional nervous diseases are steadily increasing among young children, and ascribes this increase to playing with them, "stimulating to laughter and exciting them by sights, sounds or merriments until they shriek with apparent delight" He advises that all such romping and playing during the first year at least be absolutely prohibited During the first three years sleep is not very deep and hence demands attention to quiet surroundings

We have then found noise a factor in the causation of certain ear diseases, in the course of many acute and general systemic diseases, in the etiology of some nervous diseases, chiefly neurasthenia and to some extent in the general health of the community What line of action is open to us as students of preventive medicine? First, careful study is demanded of specialists, general practitioners and inventors to devise some protection for the ears of those who must work in the midst of a continuous din Cotton has been used, but is inefficient It is no slight matter to have such a large number of people continually added to our population, nearly or wholly deprived of their hearing Many of them must become, sooner or later, a charge upon the public, and all of them are to a great degree rendered incapable of work Protection to the eyes is guaranteed by law Why not for the ears? Moreover, it seems probable that a careful examination of manufactories will show that much of the noise is unnecessary If it were realized that the noise is really harmful, quiet would be secured by the same methods that we have good air and suitable light It will cost some money, but when the people demand quiet the capitalist must furnish it As usual the physician must lead the way

If, now, we turn to noises outside of factories, there is also much to be accomplished Pavements may be made smoother, as they are in Washington, D C, carriages may run more quietly, as for example by the addition of rubber tires street cars and steam cars can run more quietly by care in the construction of roadbed and cars, and in the running of the cars heavy teams may be so constructed and loaded as to avoid the dreadful jar, clatter and crash so often heard on our streets, hurdy-gurdies handorgans, street-venders and newsboys may be restricted in time place and calls, shrieking whistles and jangling bells may be abolished These are but examples Many other possible regulations will occur to you It will require time and work and money As physicians we must believe that quiet is a great essential to good health and then we must persuade the people that our belief is well founded

Kilsyth Road

BIBLIOGRAPHY

Ganot Physics

St John Roosa Treatise on Diseases of the Ear

E F Holt Transactions of the American Otological Association

Thomas Billroth *The Care of the Sick*

P M Wise Text Book for Training Schools for Nurses

Marie de Manaceine Sleep its Physiology, Pathology, Hygiene and Psychology

James Tyson Practice of Medicine

George J Preston Hysteria and Allied Conditions

T J McGillicuddy Functional Nervous Disorders in Women

Beard and Rockwell Sexual Neurasthenia

F X Dercum Annals of Gynecology and [illegible] Vol xi [illegible]

John B Chapin Compendium of Insanity

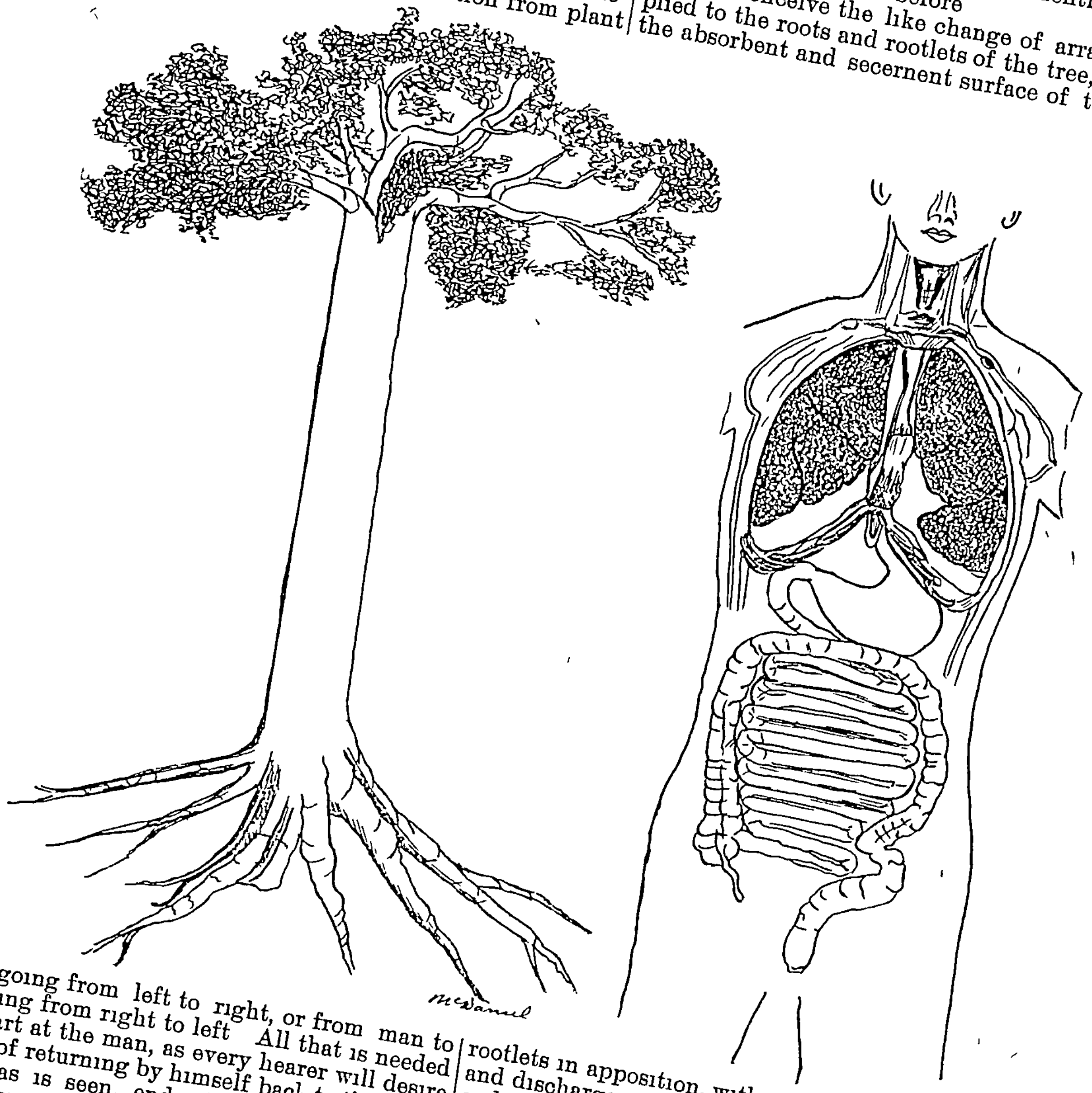
L Emmett Holt Diseases of Infancy and Childhood

A STRIKING ANALOGY BETWEEN THE PHYSIOLOGY OF ANIMALS AND THAT OF PLANTS

Presented to the Section on Physiology and Dietetics, at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo, June 7-10 1898

BY EDWARD DAVIES McDANIEL, A M, M D, LL D
CAMDEN, ALA

There is a unity of plan in the anatomy and physiology of plants and animals that affords one of the most striking, most forcible and most beautiful of the evidences of the unity of nature This unity of plan, in addition to its great but overlooked importance in comparative anatomy and physiology, is also of so great consequence and utility in human physiology and dietetics as to demand from physicians constant consideration and utilization It is so plain and easy to be understood, that it may be rapidly and satisfactorily traced, in the following illustration from plant to man, by going from left to right, or from man to plant, by going from right to left All that is needed here is to start at the man, as every hearer will desire the pleasure of returning by himself back to the plant



The tree, as is seen, ends above in large limbs, branching again and again into smaller and smaller portions, and finally terminating in leaves that spread out into the air—one of the two great sources from which the tree derives its pabulum, and into which it discharges excrementitious matters Below, the tree divides into large roots, which divide and subdivide into smaller portions until, in almost capillary attenuation, they permeate the soil—the other great source of food supply and of waste discharge

If we strip away the leaves, leaf-stems and small branches, we will have left, above the trunk, only the large limbs, which we can conceive to be hollow like the fingers of a glove, and if we invert these into the upper end of the trunk, conceived also to be hollow, and then imagine the leaves, stems and small branches to be all restored to their former places, the new arrangement will represent the air tubes and lungs, through and into which the air enters the chest to furnish food to and remove excrementitious matters from the like parts as before

If we conceive the like change of arrangement applied to the roots and rootlets of the tree, we will have the absorbent and secernent surface of the roots and rootlets in apposition, with an internal field of supply and discharge—of endosmose and exosmose—i e, a soil However, this soil is unbounded stationary and permanent, but is of limited supply and must be regularly renewed There must be a receptacle with proper devices for income and outgo Such devices are furnished in locomotor organs for reaching a food-supply, in prehensile organs for its appropriation, in an alimentary canal for its receptacle, and in a proper outlet for residual and excrementitious substances

The relationship between the foods and excrementitious matters of plants and of animals may be studied in connection with the illustration, and also the importance of remembering in dietetics and therapeutics, the great importance of the proper management of the contents of the alimentary canal to man's health and life

---

DEVELOPMENT OF THE VITAL FORCE

A PHYSIOLOGIC CONSIDERATION OF SOME OF THE FEATURES

Presented to the Section on Physiology and Dietetics at the Forty ninth Annual Meeting of the American Medical Association held at *Denver, Colo, June 7-10 1898*

BY AUGUSTUS P CLARKE, A M, M D
CAMBRIDGE MASS

It is important to bear in mind the dictum of the great German pathologist, Professor Virchow *omnis cellula e cellula* All our experiences, whether they have been directed in the search for facts among the elements of the vegetable or among those of the animal kindom, tend to establish this apothegm as a truism

The questions are often asked Whence came the first cellule? Was it a development from an atom? What was its previous physical constitution? In reply, it seems but proper to say that the introduction of such inquiries is merely the result of premature consideration In the discussion of the subject before us we will not say, however, that the examination of some facts touching upon the questions raised is not one of the objects that can come properly within our purview Reference to the subject of the divisibility of matter may serve to awaken in us some thoughts on the question

It is generally admitted that there is no definite limit to the properties of bodies by which their parts are capable of separation However small a particle of matter may be, it is impossible to conceive that it can not again be divided There may be, nevertheless, a speculative line of demarkation beyond which bodies can not be divided by the ordinary means that are within our present control This inability on the part of mankind to accomplish more, does not affect the principle by which the disintegration of substances about us is continuously carried on A grain of musk will sometimes diffuse its particles so as to scent a room for years, without losing any of its apparent weight A dog will often detect his master's footsteps or the way of traveling through crowded streets or frequented roads by the mere scent, or the sensible appreciation of particles that have been exhaled from the owner's clothing or from his person This is another proof of the exceeding attrition which matters may undergo and still have physical properties capable of being recognized

In speaking of the cellule it is reasonable to infer that there have been variations as to its extension and form from the earlier parent cell The nerve or ganglion cells of man and the vertebrates differ greatly in form, and vary in size from 10 to 100 microns The cells of the motor areas are for the mos[illegible] the larger The earth during the earlier [illegible] went many great revolutions The at[illegible] constituted largely of nitrogen, and this the air must have continued until some forms of vegetation had taken on permanent activity, by the gradual evolvement of oxygen from the elements that were subject to disintegration and change The anaërobic cellules which subsist through the medium of the fermentation they produce, assumed from the increasing contact with the oxygen the nature of aërobic organisms The changes through which such cellular bodies passed could not have been other than of a slow type The earth, in some form and extension, must be of great antiquity if not of beginninglessness[1]

Though there are many indications that the earth has undergone vast and mighty change, there is no real proof that the whole mass at any one time was in a molten state Assuming that such was the case the atmosphere surrounding it may not have been so affected as not to have been a center for fostering some of the various forms of cellules The interior of the earth is almost entirely unknown, the depth which we have been able to penetrate is scarcely to be reckoned when the whole diameter is taken into consideration The theory deduced on account of the gradual increase of the temperature as we descend, that the earth is still in a molten state, and that we are living upon a mere crust, as it were, is based upon a most unstable foundation Paley was once confronted with the question as to the eternity of matter He disposed of the subject by saying that all the various parts of the universe presented indications of being the work of design, and if of design, ther[illegible] must have been effected by a designer Paley compared the structure and composition of various bodies to those of a watch which might be found on a roadside Each part of the timepiece being so constructed as to depend upon the proper working of the other parts, would impress any one who might be wholly unacquinted with the character and uses of such a device, that it was the result of design and of a designer Paley, *it must be admitted, was a pleasing* and gifted writer, but he was quite unacquainted with the more modern methods of investigation and results of the inquiry of the inconstancy and transmutation of the species

As before remarked, there must have been a gradual evolution of the aerobic from the anaerobic cellule After the oxygen became more freely disengaged from the deeper centers, the formation of the nervous cerebro-spinal axis took place, and its development continued until it reached the stages of the various types under which it is now represented By slow degrees the environment of the cellule improved, it was then able to appropriate to its growth a more choice pabulum, and this was transmitted to the central parts, where the structures became more highly vitalized The effete matter was then extruded toward the surface In this way substances of the cell, says a writer, assumed a greater activity until there appeared elements from which contractile tissue and muscular sense were developed

---

[1] The authority for the creation of the heavens and of the earth r[illegible] entirely upon interpretations of the [illegible] acred writ The term '*ra*[illegible] occurring in Gene[illegible]is and translated created' is used in I[illegible] Jerusalem is spoken of as created a rejoicing that [illegible] her to rejoice" The word means primarily to cut or to carve [illegible] material that existed before the cutting or carving took place In another [illegible] the word *bara* is used in speaking of begetting a [illegible]on We all have our *ideas how cities have been built and have b*[illegible] our[illegible] pr[illegible] and rejoicing to their inhabitants and how sons or children h[illegible] or produced The various [illegible]ncie[illegible] employed by mankind in accom[illegible] ing any great ob[illegible] frequently re[illegible] the attai[illegible] bu[illegible] instru[illegible] her[illegible] of [illegible] of [illegible] igh [illegible] inqui [illegible] its [illegible]

That principle or grade of intelligence, which in animals we denominate as "instinct," must have been the gradual result of chance acts put forth, either for the purpose of preservation from danger or for greater comfort and growth in their living When we come to analyze carefully our own actions and to compare them with those of the lower forms of animal life, we shall find that they are largely the result of association and of learning by experience These perceptions in animals are not the glimmerings of lapsed intelligence, for that view would imply that the ancestors were superior in knowledge to their descendants All observation and experience show that there has been a gradual progress in brain power in animals even in the forms we call protozoa

Human beings, it has been claimed, are superior to animals on account of the power of reason, that is, that mankind possesses the power of ratiocinative processes or of presenting syllogistic arguments, of generalizing and of drawing conclusions As we study more thoroughly this phase of the human mind we shall be forced to conclude that this attitude or attainment is not of so great importance as has often been represented Most people can reason correctly and can arrive at proper conclusions provided the premises they choose are true In order to have true premises man must not overlook the results of his experience An animal does the same Every animal must be regarded as something more than a recorder and transmitter of impressions His impulses are the results of his sensations The same is true of man, though in a higher degree, on account of his cerebral or encephalic centers having reached a larger and more powerful development, from a more prolonged and active exercise of those parts A good example of an animal's power of reasoning is seen in the study of the beaver, whose skill in constructing his house and in damming a stream is remarkable The animals when preparing their lodges on the banks of a river or lake are occasionally overtaken by floods, and so some of them lose their lives If they were to build their huts far enough away to be safe from the destructive action of the higher rise of floods their escape from the huntsmen, who are their greatest enemies, would not be so easy

The further we carry on our researches regarding the nature and value of ratiocinative processes, the less will we consider such operations as the greatest of all attainments What remarkable discoveries in art or science have been made by relying essentially upon the methods of inductive philosophy? Most of the great achievements have been made by the persons who have been well versed in the details of similar methods of procedure or in the mechanism of works that afford light respecting the new invention Harvey, in reply to the question as to what first gave him the idea of the circulation of the blood, said that the valves of the veins pointed away from the central organ, the heart, and that this fact led him to believe that they must have been concerned in the movement of the blood in the heart and arteries This celebrated physician and surgeon, it must be remembered, had, before he made his discovery, been an accomplished anatomist He had made himself master upon the subject of the views of Servetus, of Columbus, of Cæsalpin and of other great investigators, who, it appears, were on the verge of interpreting the principle by which the motion of the blood was controlled

The knowledge of all principles underlying science generally has slowly been evolved The same is true in regard to the conception of a plan for the efficient working of the steam engine and of gaining a knowledge of the most available materials for its construction It has taken ages for man to learn how to describe correctly the several parts or bones of the skeleton, or the different portions of a plant and flower, as their several characteristics are now studied and set forth The nervous cerebro spinal axis of man, like that of any animal, was constituted originally of a mere entanglement of developing primitive cellules

Man's adaptation to his environment was undoubtedly accidental, though it proved favorable to his growth, progress, and attainment He is often too apt to boast of his superiority over some of his apparently weaker neighbors, just as one nation regards its own material possessions and its opportunities as of far greater consequence than those within the reach of other nations Referring again to the power of reason as measured by the scale of what are called logical conclusions, how very fallacious this attribute will often prove when implicit trust is had in the deductions that are reached through its operation

The consultant says that general anasarca, or dropsy, in the human body is dependent upon one of three causes of disease, viz, upon disease of the heart, of the liver, or of the kidneys Examination showed that the heart was not primarily affected, the liver was also regarded as not abnormally involved The great edema must therefore be, in accordance with the general proposition enunciated, due to original disease of the kidneys The autopsy showed, however, that the cause of death was owing to pressure upon the ureters of morbid growths (uterine fibroids) which had been the *fons et origo* of all the untoward symptoms Had a little more attention been paid by the advisers to the formation and effects of pelvic neoplasms and to the results of inflammatory conditions, and less trust been placed in the conclusions drawn by reasoning without the help of knowledge and experience derived from such special study, the patient's suffering might have been relieved and her life prolonged by the adoption of proper, timely surgical methods of treatment

Facts are often wrongly interpreted by regarding certain phenomena as the result of laws of the animal economy If by law we mean that certain special phenomena occur after the appearance of particular conditions, there can be no objection to using the term "laws" for phenomena When we assert that such phenomena are the results of a law established by a lawgiver whose dictum is irrevocable, we deceive ourselves and thus give color to the conclusion that all remedial measures for relief are useless

By the term "law" we can mean no more than that certain results follow when certain conditions are presented in accordance with special observed facts which have previously been ascertained We know that when chlorin and sodium in limited quantities, and under the influence of a particular temperature, are brought together the formation of common salt will be the result Should the condition of our atmosphere undergo a material permanent change, such a product as salt by the union of the two elements might not be the result Assuming that such a physical atmospheric change should supervene, we can not otherwise conceive than that the principle essential to the formation of chlorid of sodium must have been beginningless The departure from the occurrence of such results can only take place during the presence of other conditions Should our entire planets, as it is possible for the human mind to apprehend, be so heated or melted as to destroy apparently all animal and vegetable life, as has seemingly prevailed within its structure during the several geologic periods which may have existed, it would be altogether likely that life of such nature and character would again recur after the subsidence of the heat or of the caloric that would be engendered by the fusion of matters, though it would undoubtedly require the lapse of centuries for its reduction The ebb and flow of tides which would take place would be on a scale that would be almost incomprehensible The enormous columns of clouds that would be formed from the ebullition of all the watery elements, though destructive to the larger living organisms, would nevertheless waft volumes of cellules far beyond the border lines of the consuming heat evolved Living cellules would thus be preserved and their multiplication in some form would be continued The diameter of such cellules might gradually undergo, during the subsequent processes of their formation, material diminution The aerobic organisms would assume, as before stated, more and more the nature of anaerobic bodies, or of other minute forms of life, dependent on the pabulum which could be appropriated from the circumfusa in which they would be enveloped

---

* See Prof H W Parker's interesting article on "The Mystery of Animal Minds" in the February number of Popular Science News 1898 also in a previous number of the same journal

In this connection it might not be improper to state again that carefully recorded experience and close observation tend to show that all forms of animal life, except those in which morbid changes have occurred, have materially advanced to a higher state of development Even those we denominate as the protozoa have progressed and undergone division into branches of a higher grade How impossible would be the accomplishment of the task, should any one attempt to enumerate the various cycles or eons that elapse before a simple unicellular protoplasm can become so differentiated as to reach the higher grade of organisms

Who could say what had been the history of each single class of primitive cells before it assumed a more complex structure? We may denominate such organisms unaltered bodies or forms of life, but, as before remarked, we can not say that such simple bodies have always been in such a state, or that such unicellular organisms have not previously had at varying intervals an innumerable number of unfoldments and regressions

---

SOCIETY PROCEEDINGS

Chicago Academy of Medicine

Regular Meeting, Dec 9, 1898

Prof C S N Halberg officiated as chairman of the meeting Dr George W Johnson of Dunning, Ill, read a paper entitled

A CONTRIBUTION TO THE STUDY OF THE BLOOD OF TUBERCULAR PATIENTS

He said that hematology was yet but imperfectly developed, and like many other methods of clinical examination, was replete with error It seldom gave a pathognomonic diagnosis but often gave a protosight of data that can be detected in no other way Its limits of usefulness in the practice of medicine are yet undefined But it has come to be of such importance of late, that scarcely any clinical examination is complete without an examination of the blood This is especially true of the chronic infectious diseases, and more particularly of tuberculosis Anent the blood of tubercular patients it is stated by an eminent authority on hematology, that while the patients appear to be profoundly anemic, their erythrocytes are seldom diminished in number and the hemoglobin is usually up to par, or but slightly below it The question is therefore asked, "What is the cause of the apparent anemia in tubercular patients?"

It is the purpose of the paper to report observations on the blood of fifty tubercular patients in the advanced stage of the disease Every possible source of error known to the author was eliminated or reduced to a minimum A diagnosis of tuberculosis of the lungs was positively established by microscopic examination of the sputum That the exact extent of the disease might be known and no other pathologic process present to influence the elements of the blood, a thorough physical examination was made Especial attention was paid to cavity formation, with the idea of determining the presence or absence of leucocytosis in such conditions The technic was essentially that detailed in Cabot's work on the blood Clinical notes were taken on age, sex, duration of illness, family history, presence or absence of hemoptysis or hemorrhages, afternoon temperature and somatic condition Unfortunately, the patient's word had to be taken as to the family history This, however, was unimportant In the microscopic examination of the sputum, note was made of the presence or absence of strepto or staphylococci, for it is stated by Leyden, in "Musser's Medical Diagnosis," that pus micro organisms were not found in the purulent contents of tubercular cavities They were found in great abundance in each one of the fifty cases detailed in this paper

Hemoglobin —Two methods of estimating the percentage of hemoglobin were resorted to that by Fleischl's hemometer, and Hammerschlag's specific gravity test In these cases Gloischl's instrument was more accurate The specific gravity test invariably registered too high a percentage The best chemicals were used, with accurately tested Squibb's urinometer Repeated tests were made and by different persons, with the same results The corpuscle index was estimated from the percentage of hemoglobin as read from Fleischl's instrument In Germany, Jellinek has been experimenting of late with an instrument called Jolle's ferrometer This is an instrument for estimating the amount of iron in the blood He reports eight cases of secondary anemia in which the hemoglobinometer gave readings much higher than those recorded by the ferrometer, and suggests that poorly oxidized blood may give a higher hemoglobin per cent than the amount of iron in the blood would warrant The hemoglobin per cent in Dr Johnson's cases was far below normal in every instance, notwithstanding a new instrument was used, which always reads higher than one in long use The blood was always very dark and watery, being difficult to save till taken

Chlorosis —This condition was met with in eight cases Notwithstanding that it is seldom met with in males, five of these eight cases were in male patients It is a fact that no hard and well defined line can be drawn between mild cases of secondary anemia and chlorosis, but from the classic symptoms laid down for chlorosis, these cases would most certainly and more properly come under chlorosis The percentage of hemoglobin was very low *even to oligochromemia*, the erthrocytes but slightly diminished in number and smaller in size than normal, with now and then well marked necrobiotic changes There was always leucocytosis, which is not usually true of uncomplicated chlorosis

Leucocytes—There is always a leucocytosis if cavities are present, and the vital resistance of the patient is not too low The number of leucocytes will be in proportion to the virulence and extent of the septic process and the vital resistance of the patient If the septic process is extensive and the patient extremely asthenic, there will be hypoleucocytosis Cavities were demonstrated in twenty eight of the cases Of this number, twenty six had marked leucocytosis, the other two were very asthenic The white cells were greatly increased in nineteen of the twenty two remaining cases in which cavities were not demonstrated The remaining three were also asthenic Leucocytosis thereforefore occurred in forty five of the fifty cases. Pathologic leucocytosis is diagnostic of cavity formation, [illegible] ity can not [illegible] em strated by physical [illegible] sence of [illegible] excluded cavity f [illegible] c cases

In cases of chlorosis there is lymphocytosis In secondary anemia the adult lymphocytes are the more numerous Polymorphonuclear neutrophiles are abundant in septic cases If there is an asthmatic or dysphonetic condition, the eosinophiles will be increased Such was the observation in these cases Ehrlich's triple stain was used in the preparation of the slides Neusser's granules were seen in a number of cases, but were not constantly present, or could not be detected from the granular appearance of the eosinophiles They appear as separate bodies, lying in the protoplasm immediately around the nucleus, and are most commonly seen in the mononuclear variety They are considered to be peculiar to chronic tuberculosis and are indicative of uric acid diathesis Among the cases was one of Addison's disease In this case the leucocytes were all more or less granular, the granules being finer than those seen on the eosinophiles, and darker, like small grains of powder

Erythrocytes —Well defined necrobiotic changes were noted in thirty six of the fifty cases Of these thirty six cases, twenty eight had secondary anemia Both hemoglobin and the number of erythrocytes were diminished, with necrobiotic changes in the erythrocytes, such as irregularity in size, none being larger than normal while some were normal and others showing poikilocytosis, oligochromemia and oligocythemia, together with a diminished number of leucocytes and an increased number of adult lymphocytes and normoblasts The degree of such changes was, of course, varied, and there was usually leucocytosis, which is most always true of secondary anemia

Recapitulation —The hemoglobin was far below normal in each of these cases Chlorosis was met with in eight patients In these eight cases there was oligochromemia, normal or nearly normal number of erythrocytes, diminished diameter of erythrocytes, with occasional necrobiotic changes, lymphocytosis, normoblasts, and diminished number of adult lymphocytes, and low corpuscle index

Dr Homer M Thomas—The able paper presented by Dr Johnson is one of widespread interest, not alone to those especially interested in tubercular disease, but to the profession at large It represents a vast amount of painstaking, thorough and scientific work The detail of blood examination in tubercular disease is one of elaborate technic The study of hematology, as we know, is as yet imperfectly developed, and while the present methods of clinical examination are thorough and up to date in every particular, it is possible that errors may be discovered with improved technic

The question of the apparent anemia in tubercular patients is one in which many theories have been advanced, but nothing definitely determined We know that the paleness of the skin is not due to a lack of hemoglobin, it is only by following up lines of investigation and finding out the real cause which exists between the apparent anemia and pernicious anemia that we can acquire any data upon which to establish a differential diagnosis between the two conditions This has been very ably accomplished by Dr Johnson His thesis is worthy of particular commendation, because he does not attempt to dogmatize, to establish a theory upon the results of his findings, but rather to make a plain statement of facts and allow us to draw from these facts our own deductions

It has been stated by Leyden in "Musser's Medical Diagnosis" that pus micro organisms were not found in the purulent contents of tubercular cavities In Dr Johnson's fifty cases pus micro organisms were found in great abundance in each one of the cases This discrepancy in statement may be due to the fact that in Leyden's cases there existed auto infection without communication of the cavities with the larger bronchial tracts, while in those observed by Dr Johnson there existed direct bronchial connection with the cavities and hence mixed infection resulted These observations will go a long way toward placing upon a firm scientific basis the hematology of tubercular cases It would be of vast scientific interest if some other observer, *as fortunately situated as Dr Johnson is*, in contact with tubercular cases, could make a similar series of examinations Then a comparative analysis could be instituted between the two series, and discrepancies and agreements might be readily ascertained

I wish to congratulate Dr Johnson on the scientific character of his work, and hope that this series of cases may be but the beginning of more and more work in this interesting and invaluable line of investigation

Dr R B Preble—I appreciate very fully the labor that Dr Johnson must have expended upon this paper There is no work which comes to the clinician that is more trying and requires more patience than that of hematology, and at the same time, it must be confessed, there is scarcely any work which brings us so little true satisfaction

Certain conclusions were drawn by the essayist which, it seems to me, were rather strongly stated For example, the statement that a leucocytosis is pathognomonic of the presence of cavities, although we are unable to demonstrate them by physical signs, can not be substantiated, because the leucocytosis which we find in cases in which cavities can be demonstrated is not due to the presence of cavities themselves, but to the presence of bacteria which give rise to cavity formation These cavities are due not so much to the tubercular infection as to the mixed infection If we have the latter without cavity formation we find leucocytosis also So that the most we can infer from the presence of leucocytosis is that we have not a pure tubercular infection, but that we have added to it the more active pus bacteria, especially pus cocci

It is interesting to note that Dr Johnson has run across cases of chlorosis The dividing line between chlorosis and secondary anemia is not by any means a sharp one, so that cases of chlorosis and secondary anemia are not easily differentiated It is interesting to note in this connection, that one of the questions which must always be considered when we come in contact with chlorosis is whether we have a case of chlorosis or one of incipient tuberculosis under the picture of chlorosis This frequently happens especially in girls They present apparently a chlorosis, and it is found later on not to be true chlorosis out incipient tuberculosis

I think Dr Johnson is right with reference to his statement of Neusser's granules It is well known that Neusser is a little inclined to attach too much significance to these granules, and yet one hesitates a good deal to question his conclusions, because he is a man of such great painstaking and exactness It was my pleasure to listen to Neusser's lectures for a number of months He is a man who is known among his immediate associates as one who is extremely careful both in his work and in making statements He writes but little but what he does is very good While it would seem as if Neusser had over drawn his conclusions, still one hesitates to question anything that he says

Dr James G Kiernan—It seems to me that a number of points in general pathology, suggested by the paper of Dr Johnson, ought to be considered For instance, take the question of chlorosis At one time the attempt was made to demarcate hysteria from certain symptoms which occurred in the female from certain symptoms of precisely the same character which appeared in the male Here, as with chlorosis, the question was a difficult one to determine, because the female is more liable to certain symptoms Certainly, from this standpoint, Dr Preble's opinion regarding chlorosis does not seem to me to cover the point entirely While it is true that chlorosis is premonitory of a large number of cases of tuberculosis, and while it is equally certain that chlorosis occurs in all three types of the tubercular diathesis, is it anything more than the demonstration of the fact that a culture medium for the development of the tubercle bacillus is produced by those conditions? Some years ago a very valuable brochure was published in a Herman series of clinical lectures by Sokolowski, in which he discussed a number of conditions mimicking tuberculosis In a large number of these conditions while hematologic factors were not narrated clinical phenomena were These seemed to indicate that chlorotic conditions resembling those occurring in the preliminary stage of tuberculosis were present in a number of cases of malaria, post-pregnancy and nervous exhaustion states On the other hand, Sokolowski pointed out that prominent among the tubercular affections which mimic other diseases is pseudo chlorosis For a long time, he remarked, a certain connection between chlorosis and pulmonary tuberculosis had been noticed Some forms of chlorosis attacking young women at puberty would obstinately resist otherwise successful treatment and gradually pass into lung tuberculosis The opinion obtained that the condition was simple chlorosis which from some obscure cause passed into phthisis Trousseau first called attention to this condition, which he termed pseudo chlorosis, and showed it was *a precursor of phthisis* The pallor of pseudo chlorosis is, as Sée has pointed out, often distinguishable from that of chlorosis The pallor of chlorosis is a waxen one shading into green The pallor in pseudo chlorosis is bluish gray shading into ashen It is of interest, therefore, to find that hematologic observation has confirmed these older observations in clinical medicine and has pointed out a basis for the semeiology It is not surprising, therefore, that there should be conditions occurring in both male and female, who are victims of tuberculosis, which will mimic, if not actually be, chlorosis, and which is practically a culture medium for the development of tubercle bacilli

With regard to the question of leucocytosis and cavity formation raised by Dr Preble, there exists another factor in addition to what he called the most active agents of degeneration, the staphylococci, the streptococci, and the pus cocci in general There is still that tendency from an expression of constitutional defect, in addition to the onslaught of the pus cocci, aided by the tubercle bacilli I understood Dr Johnson as saying that the condition prior to cavity formation was one of leucocytosis

Dr JOHNSON—I simply stated that where there was pus infection, even where there could not be a cavity demonstrated, leucocytosis was diagnostic of cavity formation, and I simply meant that it was diagnostic of bronchiectatic abscesses and smaller abscesses, which I believe would be difficult to demonstrate physically

Dr KIERNAN—Taking another phase of your paper, would *you regard leucocytosis as an expression of a defect of vital* resistance, or of the opposite condition—an attempt at repair?

Dr JOHNSON—If there be a leucocytosis, I consider it an attempt at repair

Dr KIERNAN—That was precisely the position assumed by Sokolowski In accordance with the usual laws of pathology, when there is an onslaught by active organisms, like the pus cocci, there is an attempt at excess of the white corpuscles, and hence, under ordinary pathologic laws, that should be expected in the case of a cavity where the vital resistance was sufficient, rather than the reverse It seems to me, that is an expression of a pathologic law

I do not think Dr Johnson has taken too positive a standpoint in his paper His findings have been merely put as strongly suggestive rather than as demonstrative Considered from that standpoint, it is an extremely valuable contribution Of course, there need to be undertaken a large number of control experiments along this line, but we must not forget that in hematology, as elsewhere, the old fiat that was pointed out by Bacon in his "Idols," that is, a man takes a label and proceeds to measure everything by it without reference to control experiments *This paper can only be criticised from its suggestive* standpoint It must be remembered that in pulmonary tuberculosis there are a great many phenomena such as occur in a large number of exhaustional conditions They occur with greater rapidity, they are more demonstrable, they are mingled more with the minor phenomena produced by the tubercular changes, but still in a general way they resemble the other conditions of exhaustion This is peculiarly true of the psychoses produced by tuberculosis That being the case, one would expect a large number of phenomena having a close resemblance to other constitutional conditions modified more or less by the local states As Dr Preble has pointed out, a good many of the most difficult conditions that have to be dealt with in considering pulmonary tuberculosis are due rather to the secondary ravages of pus cocci than to the original ravages of the tubercle bacillus itself But it should also be remembered, that while the tubercle bacilli can produce a constitutional condition which predisposes to pus cocci ravages, yet behind the tuberculous condition are a number of constitutional states, and all of these should be considered

I would like to see, what I think will ultimately be made, precisely the same observations along the line of what Sokolowski has called pseudo tuberculosis that have been made here, that is, observations to determine how much of these hematologic phenomena are produced by constitutional conditions which underlie and predispose to the tubercular condition, and how much of them are produced by the secondary consequences of the tubercular infection

Dr J A WESENER—Dr Johnson has not overstated the case in saying that the specific gravity and Fleischl's method of estimating hemoglobin are very inaccurate In normal blood all the hemoglobin is not oxyhemoglobin, but some of it is hemoglobin, *furthermore, oxyhemoglobin* is changed quite rapidly in the presence of air, etc Fleischl's hemomometer is standardized to the color of oxyhemoglobin and it is this variation of color of the different colors of hemoglobins which makes this error Hoppe Seyler's method is very accurate and simple, he uses an apparatus composed of two compartments One of these he fills with a standard carbonic oxid hemoglobin solution, and in the other he places the blood to be examined, and dilutes up to the mark with water, and then passes in carbon monoxid gas to saturation We now have two hemoglobins, both of the same chemic composition, and, therefore, of the same color We could apply the same method to Fleischl's hemomometer instead of using an oxyhemoglobin prism, use a carbonic oxid hemoglobin prism, and then saturate the drawn blood with carbon monoxid and place in the disc and proceed the same as given under the Fleischl's method

With reference to pathologic leucocytes, I think Dr Johnson's answer to Dr Kiernan, that it is an effort at repair, is correct, and I believe if the urine had been tested in all of these cases albumose would have been found This is always indicative of either pus formation or chronic suppuration In simple tuberculosis we will not find any albumose in the urine When we have mixed infection, especially when there is an effort at repair, albumose will be found in the urine

Dr JOHNSON (closing the discussion)—I wish to make myself clearly understood in regard to pathologic leucocytosis I believe it is universally conceded by pathologists that where there is a pathologic leucocytosis, there is always a septic process, and that was the thought expressed in my paper I desired to be understood as saying that where there are pus micro organisms present, such as streptococci and staphylococci, and where there are purulent discharges in the sputum demonstrated by microscopic examination, there is the formation of bronchiectatic abscesses I stated in my paper that there are various degrees of cavity formation, as well as various degrees in the septic process, and that is what I meant when I stated that a pathologic leucocytosis is diagnostic of cavity formation, although the cavity could not be demonstrated by physical examination I desire to thank the members of the Academy for their attention and discussion of my paper

Southern Surgical and Gynecological Association

Eleventh Annual Meeting, Dec 6-8, 1898

(Concluded from page 1175)

Dr A M CARTLEDGE of Louisville contributed a paper entitled

WHEN SHOULD WE OPERATE FOR APPENDICITIS?

He drew the following conclusions 1 Probably 98 per cent of the patients who die of acute appendicitis without operation have the fulminating variety of disease Operation, to be of service, must be done in the first twenty four hours better in the first twelve 2 In view of the fact that we have no means of knowing the probable course of a given attack of appendicitis, operation, when possible, should be performed within the first twenty four hours after the onset of symptoms 3 Patients seen after the third day should not be operated on until over the attack, or until purulent formations, if such take place, have been walled off and the patient practically rid of general sepsis An exception to this rule is the rupture of an appendiceal abscess into the peritoneal cavity, a very rare accident, when abdominal section should be immediately performed 4 Probably as many patients recover from general septic peritonitis by stimulants and *purgatives as by operations* In either event, if it is a case of true general septic peritonitis, the mortality will not be far from 95 per cent Contributions to medical literature would indicate that there is a sad need, on the part of the profession, of more definite views as to the nature of this disease If operated on at all, no attempt at general cleansing of the cavity should be practiced, quickly assist nature to take care of the desperate patients, by removing the source of the foci To do more is to add the shock of an unbearable operation to an already nearly exhausted vitality 5 Subject to interval operation patients who have suffered unmistakable attacks of the disease 6 Do not operate too soon after a severe attack with many adhesions, the operation will be greatly simplified by waiting a few weeks longer In the meantime, keep the patient upon light diet and little exercise Patients do not usually have a recurrence until the adhesions or splints have been *removed by absorption The mortality* from interval operations should not be more than 1 per cent In drawing the above conclusions, Dr Cartledge wishes it to be distinctly and thoroughly understood that they are not to be considered in the sense of hard and fast rules, but simply as a working basis for the general practitioner

Dr GEORGE H NOBLE of Atlanta read a paper on

URETERAL ANASTOMOSIS

He gave an analysis of thirty cases collected from literature, and divided them into two classes 1, ureteral anastomosis or union of the ureter end to end or side to side 2 ureteral implantation into the bladder July 2, 1898 the essayist ligated the ureter with the ovarian vessels and Fallopian tubes in a case of large extraperitoneal fibroma This was the very first ligature applied in doing the hysterectomy The bladder end was split about three eighths of *an inch, as much of the* mucous membrane as could be drawn out was cut away then the upper or kidney end of the ureter was invaginated into it using a mattress suture for the purpose The split was then closed with fine sutures making a snugly fitting cuff around the opposing end with no mucosa intervening Small silk was used to stitch the raw edge of the inferior segment around and to the sides of the upper section A peritoneal cuff was thrown around the joint thus made and the ureter buried behind the peritoneum The entire work was conducted with the aid of a ureteral catheter, which had been introduced through the ureter into the bladder and drawn out of the urethra with a pair of forceps The upper end was passed into the kidney end of the ureter This served a useful purpose, the entire manipulation being greatly facilitated and preventing obstruction of the ureter by crowding down the cut end of the mucosa just below the line of union This case had suffered from absorption of pus for a number of weeks from double pyosalpinx, was emaciated and thoroughly septic Her temperature just before going upon the operating table was 103 degrees, and had been running equally as high for the time she had been in the hospital and perhaps longer Her pulse was 130, weak and thready Thus this anastomosis was done under unfavorable conditions, but was successful

In October, 1898, he did a successful resection of the left ureter in a case of extraperitoneal extension of sarcoma of the ovary About one and a half inches of the duct was removed and the ends united as above The peritoneum was stripped from the entire left half of the pelvis The bladder was separated from the upper portion of the vagina, and also from the horizontal ramus of the pubic bone, and drawn up to left side to the ileopectineal line to cover or bury the ureter, and fastened with a silk suture In this instance the ureteral catheter was introduced on the stiletto, and being stiffened by it passed directly out of urethra from the ureter, thus the use of forceps was necessary to fish it out of the bladder Abdominal and vaginal gauze drains were used There was no leakage

The essayist said that there are several features necessary to success in doing ureteral anastomosis aside from thorough asepsis 1 Perfect coaptation or invagination, which must be done in such a way that no mucous membrane can slip between the ends of the ureter 2 The ureteral artery should be preserved in its continuity to the ends of the ureter If this vessel be destroyed, when the ureter has been dissected loose from its attachments, it will perish beyond the point where it ceases to receive its blood supply The ends of the ureter should be cut back to the point where the artery is intact, lest under diminished blood supply and tension it should perish 3 All strain or tension must be relieved Should union occur by first intention, the parts will separate as soon as the sutures cut out or are released 4 There must be no obstruction to the flow of urine

Dr Willis F Westmoreland of Atlanta presented a paper entitled

CARCINOMA OF THE BREAST

He said that carcinoma now presents even a more serious problem than formerly, on account of its rapid increase The proportionate mortality from cancer is four and a half times greater now than half a century ago No other disease can show anything like such an immense increase According to statistics, two out of every five cases of carcinoma in the female are of the breast Over three fourths of all the tumors occurring in the breast are carcinoma, or to be exact, of 637 tumors, over 503, or 83 20 per cent were carcinoma, leaving only 107, or 16 79 per cent , representing all other forms of neoplasms The author discussed the etiology of the disease at considerable length Speaking of the pathology, he said there was no subject in surgery about which such divergent opinions are held There is a wide variation in the malignancy of carcinoma, some proving fatal in less than a year, a few others taking ten or fifteen years He divided the new varieties of carcinoma into the scirrhous and medullary or encephaloid The former has an average duration of life of about thirty months, the latter of about twelve months When it is considered that the skin and pectoral muscles are involved in nearly every instance in this disease, the surgeon can easily see the philosophic reasoning upon which Halstead's operation is based The essayist follows the Halstead method in carcinoma of the breast He believes, however, that Dr Bloodgood was the first to demonstrate the advantages of completely cleaning out the postero internal subscapular region by the supraclavicular route The results of the Halstead operation, in the opinion of the essayist, depend upon the ability of the individual operator, his earliness in seeing the case and his closeness in following Halstead's technique This operation not only requires surgical skill and experience, but proper respect for the magnitude of small things

In the opinion of Dr Westmoreland, no surgeon will make a satisfactory operation on his first few cases He finds that with each case he operates more satisfactorily The operation does not present the seriousness that its magnitude would lead us to believe He has operated six times before his class at a public clinic and transferred the patients afterward, at times quite a distance, to their homes In his first operations he had some shock from exposure, but this is easily controlled by placing hot towels over the exposed surfaces There is practically no blood lost in a properly made operation It is better to complete the operation, grafting included, at one sitting When, for any reason, this is not practicable, the cleaning out of the supraclavicular region and the grafting can be made at a second operation When grafting is done at a second operation he finds it better to remove the granulations This is best done by curetting In two of his cases it was necessary to remove the subscapular nerves, and in another to resect the axillary vein No unpleasant sequelæ followed in either case He has operated upon over fifty cases of carcinoma since he began surgical work, and has always cleansed out the axilla and stripped the muscles in each case He has been making Halstead's operation since its introduction He does not know the results in the majority of these cases Two of them, however, came back to him with later recurrence, one with a carcinoma of the femur five years after the operation, no local return , the other with a local return in the cicatrix nine years afterward This case died in a short time from metastasis He feels quite sure that these were not independent new growths There is always one rule, that the more malignant the case, the greater the blood changes

The primary object of the paper was to point out the fact that a careful clinical examination of each case, a record of the local conditions, the type of tumor, the blood changes, whether or not there was marrow infection, the family history, and the length of time it had existed, would not only give definite facts upon which to base a prognosis, but, if published with each case, would give all surgeons a record of infinite value for comparative purposes

Dr I S Stone of Washington, D C , contributed a paper on

THE RARITY OF OVARIAN CYSTS IN NEGRESSES

After several years' experience in a hospital for women, where a large number of negresses are annually treated for gynecologic diseases, and where cases of uterine myomata are frequent, the writer has noticed the extreme rarity of ovarian neoplasms and especially of the multilocular variety He addressed letters to all the members of the Association and to several other prominent surgeons elsewhere, and of the large number who replied to his inquiry there was almost universal acquiescence in the position taken by him, save from one important medical center, i e , New Orleans According to the records from the hospitals of this city, cysts of the ovary of all classes are rather more frequent in the negro than in the white Leaving aside this one source, the author advanced overwhelming testimony favoring the view that ovarian tumors are exceedingly rare in the negro race The essayist makes a careful distinction between multilocular and unilocular cysts, because there can be no doubt about a diagnosis at the time of operation when a multilocular cyst is found It is otherwise with parovarian cysts or those of the broad ligament, etc , which are perhaps classified as ovarian, and their removal called ovariotomy in hospital reports or operation lists, when, strictly speaking, they are not ovarian tumors He has frequently operated for dermoid, papillomatous, parovarian and broad ligament cysts in negresses (although most of these in mixed cases), but has not seen a multilocular ovarian cyst

Dr F W Parham of New Orleans read a paper on

RESECTION OF THE THORACIC WALL FOR TUMORS GROWING FROM THE THORACIC SKELETON

He reported two such operations of his own with successful results Both operations widely opened the pleural cavity and the lung collapsed in both In the first the collapse was relieved only when the great pectoral muscle was brought down and sutured to the rent in the pleura In the other, signal service was rendered by the Fell O'Dwyer apparatus for maintaining regular respiration He believes the perfection of this apparatus and its application in skillful hands will greatly aid in the developing of the surgery of the chest He had collected all cases operated on up to date with a mortality of 25 per cent for the intrapleural operations for tumors of the chest wall

Dr W L Robinson of Danville, Va , presented

A CLINICAL REPORT ON THE USE OF ANTISTREPTOCOCCIC SERUM IN SEVEN CASES OF PUERPERAL SEPTICEMIA, FOUR OF POST OPERATIVE SEPSIS, THREE OF SEPTIC CELLULITIS, AND TWO OF ERYSIPELAS

The use of antistreptococcic serum in puerperal fever, aseptic cellulitis, post operative sepsis and erysipelas, comprises seven cases of puerperal fever treated by him with high fever, rapid, weak pulse, characteristic breath, chilliness, nausea and insomnia, pelvic tenderness, with scanty, fetid lochia From 12 to 20 c c were injected after the usual treatment had failed, including irrigations, intra uterine and vaginal, sealing abrasions of the cervix and perineum, saline injections, purgatives, stimulants, etc , with prompt improvement in the general condition, rapid fall of temperature, lowering of pulse rate, and complete recovery The effect was manifest in from eight to sixteen hours in the majority of cases In three post operative cases of sepsis, seemingly hopeless, all usual treatment failing, the serum in twelve hours transformed every symptom of high fever, chilliness, rapid, weak pulse, diarrhea, etc , into a hopeful condition, resulting in rapid recovery Pain subsided in twelve hours, fever in eight hours, diarrhea in forty eight One was a vaginal hysterectomy, the second was operated on for the removal of pus tubes, and the third was a vaginal hysterectomy Three cases of septic cellulitis consisted of suppurative cellulitis of the hand, commencing in the finger, one of injury from a rusty nail, and the other from the spur of a cock Both had been treated by general alterative tonics and locally with improved antiseptic measures, but the disease progressed daily, involving new tissue till the serum was used, which promptly arrested the progress of the disease in both cases and saved the hands A third case was a gunshot wound of the ankle, with marked septic prostration, chills, diarrhea, etc , which was dissipated promptly by the use of the serum, so far as fever and general septic symptoms were concerned

Two cases of erysipelas One, 16 years of age, abscess following extraction of tooth, discharging at two points on the neck Redness and swelling covered one half of the face, nose and head Temperature 104 4 degrees, pulse 140, delirium, vomiting, chilliness, etc Ten c c of the serum were injected at nine P M , resulting in fall of temperature to 100 degrees Next morning there was complete arrest of all symptoms, followed by prompt recovery The second case was one of nephritis, puffed eyelids and face, erysipelas of the thigh, hard, red, shiny swelling, delirium, two injections used in twenty four hours rendered patient convalescent in thirty six hours The serum used was that of Parke, Davis & Co

Dr J B Murfree, of Murfreesboro, Tenn , followed with a paper on

PENETRATING WOUNDS OF THE CHEST

He confined his remarks largely to wounds of this region Such a wound is produced usually, by external violence where the walls of the chest are penetrated and the offending substance enters the thoracic cavity It is a wound where not only the chest walls are injured, but also the tissues and often times some of the viscera within the cavity Penetrating wounds of the chest vary in their extent, character and severity They vary from a small perforation with a delicate knife blade or small bullet, merely separating the tissues without inflicting any serious injury, up to a fearful laceration with great loss of tissue or serious damage to an organ produced by a large knife or a minie ball Wounds penetrating the chest are dangerous from hemorrhage, from the admission of air into the pleural cavity, producing collapse of the lungs, from emphysema, from empyema, from septicemia and exhaustion When a large vessel is injured, death quickly ensues from loss of blood, while injury to smaller vessels may endanger life and even prove fatal from continued or frequently repeated hemorrhage The symptomatology and treatment of these wounds were dwelt upon by the essayist at considerable length

Dr George S Brown, of Birmingham, Ala , reported a case of vesico rectal fistula of eight years' standing, the result of perineal lithotomy, with cure after ten operations

The following officers were elected for the ensuing year President, Dr Joseph Taber Johnson of Washington, D C , vice presidents, Drs F W Farham of New Orleans, and W L Robinson of Danville, Va , secretary, Dr W E B Davis of Birmingham, Ala , treasurer, Dr A M Cartledge, of Louisville, to fill vacancy in the Council, Dr L McLane Tiffany of Baltimore

New Orleans was elected as the next place of meeting, time to be determined by the Secretary with advice of the Council

After the presentation and adoption of resolutions of thanks, the Association adjourned

---

Cincinnati Academy of Medicine

Regular Meeting, Dec 6, 1898

Dr E H Shields contributed a paper to the meeting entitled

THE HYPODERMIC METHOD IN THE TREATMENT OF SYPHILIS

He had used this method in some seventy six cases in private practice and in many more in charity work and always with the best of results, the manifestations of the disease disappearing with from twenty six to sixty injections He had given over seventeen hundred injections without abscess formation and attributed this good result to several reasons that the injections were deep intramuscular, that he did not use calomel, that the solution used was sterile In this latter connection he thought not enough care was taken in rendering the preparation sterile He usually, though not invariably, used the bichlorid of mercury, and the injections were usually given about once a week The pain of the injection was not very severe and was often preferred by the patient to the inunction treatment He especially recommended this method in the roseola stage, when the face was involved and it was desired by the patient to most quickly rid himself of this early lesion, and also in those secondary eruptions that resisted other methods of treatment, as the so called psoriasis palmaris luetica In a case of iritis the pupil had responded to atropin only after the injection treatment had been instituted, though the internal administration of mercury had been pushed to the limit (A similar experience was mentioned by one of the subsequent speakers) Among all his cases he had had but one recurrence

Dr Ravogli opened the discussion, saying that he had read a paper on the hypodermic treatment, seventeen years ago, before the Academy At that time, when calomel was used almost exclusively, when the injections were subcutaneous and when but little was known of aseptic technic, abscess formation on the fifth or sixth day was very frequent To be sure, previous to suppuration the mercury in the system had accomplished wonderful results He himself had had one case develop gangrene, and death had almost resulted The patient had been confined to bed many weeks Another objection to the use of calomel was the tendency to an early production of ptyalism, once injected, absortion would continue from the reservoir until the supply was exhausted The ptyalism would become worse, and nothing could be done unless the points of injection were incised He had abandoned the method many years ago, but of late he had treated some of the inmates of the Cincinnati Hospital by hypodermic injection He found that the neurotic condition usually present among the women of a venereal ward was greatly increased The pain of the injection was greatly complained of, often lasting several weeks, almost always causing a decided limp on the day of the injection Nodules were often formed at the point of the injection which persisted for months He agreed with the essayist as to the good results obtained by this method in malignant cases of syphilis, and had often seen lesions most persistent to other methods of treatment clear up rapidly after a few injections He thought that it was for these cases particularly this treatment should be reserved He did not believe in treating all cases indiscriminately by means of any one method of treatment Drs Heidingsfeld, Merrill, Ricketts, Weaver, H M Brown, Marcus, Haines, and the essayist, also discussed the paper

Dr Byron Stanton, local member of the Ohio State Board of Health, read some interesting facts regarding the presence of smallpox in the State of Ohio, stating that the subject was of general interest in that it had assumed almost the proportions of an epidemic, and that because the type of the disease had been almost universally mild it had been mistaken in many places for chicken pox The latter, to obscure matters more, had indeed been prevalent at several places where undoubted cases of smallpox were also raging The present epidemic had begun in March of the present year, having been brought to Carroll from Georgia Several members of an "Uncle Tom's Cabin" troupe had become infected, but the mildness of the cases baffled the attending physicians and no precautions had been taken to prevent spread In all, about 550 persons had been attacked, almost all persons who were neither protected by a previous attack nor by vaccination The mildness of the present epidemic is shown when it is stated but five deaths have occurred out of the total number of cases reported Over thirty towns have suffered including the cities of Sandusky, Cleveland, Dayton and Cincinnati In the latter city, up to date, nine cases have been reported and isolated at the Branch Hospital In most of these cities the "Uncle Tom" troupe had given performances To their credit it may be said that they were unaware of the nature of the disease attacking their various members They are now happily corralled in Cincinnati The town that has suffered the most is Loveland, between twenty to thirty miles from Cincinnati, on the Pennsylvania Railroad This place is not yet free from infection

Regular Meeting, Dec 12, 1898

Dr O P Holt presented a patient afflicted with pernicious anemia The principal point about the case was that the diagnosis had been positively made about two years ago (Jan uary, 1897), and that he had been incapacitated from work for fully a year before that time by weakness, loss of strength, palpitation and shortness of breath He was admitted to the Cincinnati hospital, January, 1897, with the above symptoms and also with great edema of the lower extremities, the external genitals, and the face, particularly the eyelids The skin was of a decided lemon yellow color He was very well developed and not emaciated During the year of his illness he had consulted many physicians, and diagnoses of all kinds had been made Bright's disease, heart disease, particularly malaria, but never pernicious anemia A careful examination of the urine, quantitative, qualitative and microscopic, showed the kidneys to be normal The heart was normal, aside from soft, blowing, systolic murmurs, not constant, heard indifferently at apex and base, which murmurs could be readily accounted for by the anemia The lungs were normal, also the liver and spleen There was no history of venereal disease or of alcoholism The examination of the blood showed the reds to be in the neighborhood of one million, the whites about three thousand, the hemoglobin estimation showed the individual corpuscular richness to be above normal, taking the number of reds into consideration, so that the color index was above one The stained specimens showed marked poikilocytosis, both in size and shape Nucleated cells were not common, but the normoblasts exceeded the megaloblasts This latter point—the excess of normoblasts over megaloblasts—has always been regarded as a rather favorable sign as far as prognosis is concerned He thought that the increase in hemoglobin was due to the fact that the average size of the reds was above normal The eye grounds were normal, and no retinal hemorrhage had developed The stools were examined frequently for parasites, as described to be occasionally present by some observers, but none were found Indeed, no gastro intestinal complications had been observed at any time The patient was kept in bed, functions kept normal, and arsenic administered in the form of Fowler's solution, and gradually increased until he was taking fifteen drops three times a day without discomfort The edema gradually disappeared, he became stronger, his red count gradually increased to almost three millions and at the end of three months he was discharged at his own request, greatly improved, as he thought well To the present time he has been kept under observation, and during this interval has had two typic relapses, which latter are regarded as very characteristic of the disease His last count showed the following reds, 2,700,000, whites, 7,000 (very unusual, as a leucopenia is almost always present), hemoglobin 43 per cent, differential count (500 whites) small lymphocytes 36 per cent, large lymphocytes, 1 2 per cent, neutrophiles, 60 4 per cent, eosinophiles, 2 4 per cent, no myelocytes While counting the five hundred whites, twenty six normoblasts and one megaloblast were observed In puncturing the ear to obtain the blood, the latter flows with great difficulty, and deep puncture has to be made so as to obtain sufficient blood for examination without resorting to pressure The blood remains fluid for a long time and seems to have very little power of coagulation Poikilocytosis, while present, is not so marked as at previous examinations In the treatment of this disease many remedies have been used with apparently little success While temporary improvement has followed the exhibition of several, this good effect could not be properly assigned to the drug in question, as it is well known that many cases have improved without medication, and relapses, as he had said before, were typic of the disease Iron he regarded as useless, as the disease was not looked upon as resulting from increased destruction of reds, but to something interfering with their proper manufacture Various body extracts have been used, but with little good effect Bone marrow has been reported of value in some cases, but the time is not yet ripe to acscribe too much to this remedy Arsenic, in the form of Fowler's solution, which this patient has taken freely, is looked upon by most authorities as the most valuable agent as far as we now know

Dr C A L **Reed** read a paper on "Fat and Fecundity," which was discussed by Drs C E Caldwell, Bonifield, H M Brown, T Louis Brown, Kiely, Haines, Fraid, Johnston, Ricketts, Judkins

The French Congress of Urology

Paris, October, 1898

Albarran, **Halle** and **Legrain** presented the subject of

VESICAL INFECTION

They stated that in 304 cases examined the bacterium coli was found 131 times, pure in 98, the pyogenic staphylococcus was found 70 times The pyogenic streptococcus has only been noted eighteen times in literature In their experience gonorrheal infection very frequently depends upon the action of the gonococcus exclusively Fraenkel's, Friedlander's and the typhus bacillus are but rarely encountered, while the Koch bacillus is among the most frequent agents of vesical infection The recent discovery of anaerobic micro organisms in vesical infections throws a new light on certain gangrenous and fetid processes The diagnosis depends upon histo bacteriologic analysis of the urine, which differentiates bacteriuria from cystitis and determines the extent of the lesions The destruction of the micro organisms by medical means is usually unattainable, surgical intervention is necessary to evacuate the results of stagnation of urine and apply antiseptics or open up the organ, insuring drainage and repose

Carlier reported two cases of vesical infection consecutive to dysentery in which the infection must have proceeded from the intestines, and yielded to energetic medication

Picque extolled the value of the hypogastric incision in vesical infections except in the case of ascending infection with severe lesions of the upper urinary passages The gravity of this operation has been much overrated

Janet emphasized the contagiousness of vesical infections, mentioning an instance in which he found the same diploconic bacillus in the urethritis of two men which he had noted in the bladder of their common mistress He considers sexual relations counter indicated in case of vesical infection, even bacteriuria Others confirmed this statement with numerous instances of urethritis contracted from vesical infection in others

Hamonic recommended permanganate as an especially effective antiseptic for the bac coli, sublimate and mercuric biniodid for the staphyl and streptococci, copper sulphate for the gonococcus and zinc chlorid for the Koch bacillus

Escat related the case of a young man with acute gonorrhea who was seated and in erection, when another person sat down in his lap, causing a spongio fibrous rupture of the urethra, with the immediate formation of a diffuse sanguine infiltration in the entire perineal region, and in the course of several months complete retention, with lesions requiring internal urethrotomy and dilation

Boeckel reported a case of rupture of the urethra back of the ligament of Carcassone, from a very violent shock to the perineum A suprapubic median laparotomy evacuated a pus pocket and disclosed the location of the solution of continuity of the urethra, but a few weeks later symptoms of constriction required external urethrotomy, a hypogastric incision and retrograde catheterism, with a sound left for three weeks before complete recovery

Legueu reported an extensive urethral breach filled by the lining process devised for vesico vaginal fistulas The patient kept the permanent sound twenty days, but she is now completely cured Permanganate was preferred to protargol by several members for gonorrhea

Escat proclaimed the superiority of cyanid of mercury for this affection From 1 to 5 per cent solutions can be used progressively and as much as a liter, without inconvenience to the organ or organism It induces a serohematic exudation in the urethra which proves an effective serotherapy against the gonococci, and when better appreciated will render valuable services in gonorrhea and perhaps in all urinary affections

Monod confirmed its value from experience, although he observed that the application is sometimes painful The pathogenesis of secondary aseptic urethritis in persons with a gonorrheal past was discussed, and instances related in which the bicycle, coitus and the immoderate use of beer produced it

Carlier of Lille has even observed cases of urethritis in men without venereal antecedents but addicted to beer to the extent of twenty liters in the twenty four hours

Abarran reported six observations of double angioneurectomy for hypertrophied prostate, all satisfactory and come remarkably improved The results of vasectomy reported were twelve cures, ten improved and twelve failures, out of forty cases operated (Nicolitsch), one absolute failure (Reynès) Six cases remarkably improved by the Bottini operation were reported

Cottet described a case of acute prostatitis following a two months' old gonorrhea, requiring the prerectal incision and evacuation of the abscess, in which the gonococcus was found pure, furnishing fine cultures He can find no similar case in literature

Desnos observed, in regard to prostatic calculi, that they can be reached by the perineal route if they are small or medium sized, but if they are found too large to extract by this means, even after the perineum has been opened, the hypogastric incision must be resorted to

A number of cases of vesical tuberculosis were reported, cured with cystotomy, curetting and cauterizing the inner surface of the bladder

Nogues has been *very successful in some recent cases with* instillations of a 1 to 4 per cent solution of ichthyol

Vignard protested against the laborious enucleation of the organ, which too frequently preceded nephrotomy

Loumeau does not advocate in general immediate suture of the kidney after nephrotomy for calculous anuria, but reported two observations in which the catgut suture healed by first intention without any filtering of urine through the wound

Albarran always leaves a drain in the kidney reaching to the pelvis after nephrotomy for calculous anuria He reported several cases of pyelonephritis treated with lavages of the pelvis with boricated water and nitrate of silver, 1 to 1000 He urged all to establish better the indications for catheterism of the ureters He only applies it in bacteriuria in the rebellious form, and the precaution of a lavage of the kidney will forestall accidents In severe pyonephrosis he only resorts to catheterism just before the surgical intervention

Hogge recommended salol, 9 grams a day, as a preliminary to catheterism of the ureters for vesical bacteriuria

Desnos has observed chills and fever follow catheterism of the ureters and cease as the catheters were removed In one case an intense chill followed catheterism for a severe pyonephrosis, with death in three days, suggesting caution in catheterizing

"Essential Hematuria" is the subject announced for discussion next year

PRACTICAL NOTES

Plastic Surgery in the Mastoid Process —Von Mossetig Moorhof describes, in the *Cbl f Chir* of November 19 his method of closing a defect after ablation of a cholesteatoma in the ear, and all danger of recurrence is past He cuts a tongue shaped flap below the defect, after freshening the edge between two parallel lines drawn around the edge of the flap The edges of the defect were detached all around so that they could be lifted with a hook The flap was then turned back over the defect and the edges of the flap pushed under the raised edge of the defect all around Four stitches held it in place and the space left by the flap was sutured in a straight line The exposed under surface of the flap covering the defect cicatrized over in his six cases in two weeks An extraneous flap might be applied, if desired, to render the operation more cosmetically complete

Plastic Surgery of the Eyelids —Professor Angelucci describes the following cases as a typic illustration of his method After removal of an ulcerated epithelioma requiring the excision of both lids, of the lachrymal gland and of some neoplasmic nodules in the tissues of the orbit, two large flaps were cut, one on the brow and the other on the cheek, extending down to within one centimeter of the angle of the jaw, sliding the flaps together and suturing them with the horizontal median line of the orbit between, the eyebrow on the upper flap a little lower than its normal position The orbital edge of each flap was sutured to the conjunctiva of the cul de sac, except in the internal angle, where it was sutured to the peripheral segment of the bulbar conjunctiva, which had to be detached up to the limbus The *Rev Gen d'Ophthalmologie* for October 31 illustrates the results a couple of months later The new lids work and wink well, the secretions of the conjunctival sac are sufficient to protect the corneal epithelium, and although the cosmetic results might be better, the important problem of protecting the eye is solved

Surgical Treatment of Ulcer of the Stomach —Berg urges the publication of all cases after having been followed long enough to determine the ultimate results, as the indications are still so uncertain He describes thirty cases operated on The first ten were ulcers with infiltration simulating a palpable tumor His conclusions from the results attained were that pyloroplastics is inferior to gastro enterostomy, which must occasionally supplement segmentary resection The exclusion of the pylorus supplemented by gastro enterostomy, protects best against the danger of progressive infiltration and perforation, when it is impossible to excise it as in certain cases Seven cases of cicatricial stenosis of the pylorus were treated with gastro enterostomy (in one case preceded by ineffectual pyloroplastics) The rest were for various benign affections He warns against attributing serious gastric disturbances to hernia, and advises an exploratory laparotomy when the hernia is operated on All his cases recovered *Nordiskt Med Arkiv* , xxvi, 5

Bonain's Local Anesthesia —This process comprises the anesthesia of the external surface of the tympanic membrane with a mixture of phenol, menthol and cocain hydrochlorate, āā 1 gm , or 2 gm of the phenol to 5 gm or 1 gm of the other ingredients The internal surface of the membrane and the mucosa of the tympanum are anesthetized with two or three drops of a one tenth solution of cocain instilled by an incision or incisions made in the membrane with a Hartman canula, mounted on a small syringe The blood flows very little, if at all His experience includes twenty eight operations, paracentesis, destruction of synechiæ, mobilization, ablation of the ossicles total ablation of the tympanum, also for hypertrophied tonsils and tuberculous infiltrations and vegetations of the larynx —*Rev Hebd de Laryng* , etc , November 26

Cocain and Sparteln Anesthesia —Bagot combines sparteln with cocain, which obviates the depressing effect of the cocain on the heart, while rendering the anesthesia more lasting He has a powder prepared beforehand cocain hydrochlorate 01 gm , and sparteln sulphate 05 gm When ready to use, the powder is dissolved in one or two cubic centimeters of boiled water As much as eight to twelve centigrams of cocain can thus be injected in fractional injections without accident In operating on a tumor he injects 1 c c of the weaker solution on one side, and waits seven or eight minutes before injecting the other side He can then commence the operation in a few minutes on the side first injected If the operation requires over twenty minutes, a third injection can be made, which keeps up the anesthesia for three quarters of an hour —*Gazette Méd de Liège*, December 1

Paroxysmal Hemiglobinuria —In a discussion of several cases at the Berlin Medical Society, it was established that exposure to cold even walking around barefooted in a bed room, would in certain persons produce an attack of hemiglobinuria The blood came from the ureters in one case Avoidance of getting chilled has arrested the affection in certain cases as reported , Ewald observed that he had never derived any benefit from amyl nitrite, which has been recommended for hemoglobinuria

Anthrax on the Nose —A Strubell reports a severe case of gangrenous and necrotic anthrax spreading from the tip of the nose, with chills, fever, etc , completely cured with scarcely a scar, by frequent injections of a 3 per cent solution of carbolic, a total of 400 Pravaz' syringefuls in eighteen days, combined with copious stimulants, warm baths, and hot cataplasms at a temperature of 50 to 55 degrees C , applied locally every ten minutes, night and day The growth of the anthrax bacillus is checked at 40 degrees and permanently arrested at 42 Cultures from the nose were very virulent, but no bacilli were found in the blood —*Munich Med Woch* , November 29

Aneurysms of the Arteria Ilio femoralis —The *Vienna Klin Woch* of November 24, contains a detailed review of eighty five cases in literature and a personal case, by F Schopf He concludes Compression should be attempted in every case if possible It may cure alone and, if not, it at least prepares the way for a collateral circulation If an operation is finally required, total extirpation, if practicable, is the safest method to follow It ensures best against recurrences, promotes the development of the circulation, is no more dangerous than any other method in respect to the wounds and renders rapid recovery possible The number of total extirpations of all kinds of aneurysms is increasing, according to Delbet's statistics, from 1875 to 1887, 320 aneurysms were treated with ligatures and 63 with total extirpation, or one extirpation to each five ligatures, but from 1887 to 1894 there were 189 ligatures to 76 extirpations, or one to two and a half ligatures

Radical Cure of Mal Perforans —Chipault has cured twelve out of fourteen cases by stretching the nerve, followed by cleaning out the ulceration, removing all necrotic bone and horny edges, concluding with an aseptic bandage All were cured, but two relapsed (four months to three years) The nerve should be stretched not too far from the spot, and still not too near Nine times it was the nervi plant int and ext, once the plant int alone, *once the collateralis int of the great toe, and three* times the saphenous ext at the edge of the Achilles tendon The nerve is stretched with the finger or a forceps, principally toward the distal end He noted in the etiology tabes, diabetes, syringomyelia and alcoholism The evacuation of the ulcer alone will not cure, but stretching the nerve alone will accomplish it, though much more slowly He believes that stretching the nerve is also applicable to tumors on amputation stumps, and zoster eruptions, as well as to other cutaneous affections with a nervous basis —*Cbl f Chir*, November 19

Wounds of the Heart —Professor Rydygier opens up the heart by a horizontal incision starting a little to the right of the sternum, and extending through it and still farther to the left, just above the third rib The incision is then carried downward, obliquely outward to the left, including the left third, fourth and fifth ribs The periosteum is then cautiously detatched from the sternum, and the bones sawed The triangular flap thus made is carefully raised, keeping close to the bones and detatching the muscles The heart is thus amply exposed, while there is no danger of injuring the pleura or pericardium, and the liability of foam production is reduced to the minimum Riedel states that in one case the air getting into the pericardium with the blood from the wound churned the blood into foam by the heart action, until it poured down over the whole chest wall Rydygier's flap has only been tested on the cadaver —*Vienna klin Woch*, November 24

Dressing for the Umbilicus —S I Kouzmine has devised a treatment for the umbilic wound that has proved extremely successful in forty two cases He slips an elastic band over the cord, 3 mm thick, 9 in diameter and stretching to 3 or 4 cm, pushing it down over the cord to within a centimeter of the abdominal wall No further ligature is required The stump is then covered with two or three folds of plastered cloth, which hardens into a solid shield protecting the umbilicus from infection, and undisturbed by bathing the infant, etc To prevent injury to the abdomen a strip of cotton is inserted around its lower edge, and a cloth bandage to hold it in place The plaster is left untouched until the cord drops off, when the stump will be found mummified and aseptic —*Semaine Méd*, November 30

Dangers of Lumbar Puncture —The usually harmless lumbar puncture may lead to fatal results in persons with abnormal cerebral vascularization, the same as a cranial injury on a normal person produces a bulbar shock for a moment, which soon passes away, while the same shock in a pathologic condition may entail the most serious consequences *Le Lyon Med*, reports the case of a syphilitic with abrupt, complete paraplegia, resisting all treatment for two years, when Jaboulay resolved to try lumbar puncture Ether, 20 c c, of a clear fluid escaped, and 10 c c of a 5 per cent solution of iodin were injected While the patient was still half drowsy from the anesthetic, the respiration suddenly ceased, although the heart and pulse were beating regularly and there was no marked cyanosis In spite of artificial respiration, traction of the tongue, etc, it was impossible to re establish normal respiration, although the heart and pulse action continued normally for over an hour and did not finally cease for an hour and a half The necropsy disclosed generalized syphilitic myelitis, with a softened focus in the left brain, no alteration noted in the medulla, liver or heart, but multiple syphilitic gummata in the right kidney —*Presse Med*, November 19

Diffuse Parenchymatous Keratitis —Syphilis has been found the most important factor in the affection in Panas' experience, but in from 30 to 50 per cent some other cause must be sought It is also observed in animals, which do not have syphilis Tuberculosis was noted in tweve out of fifty one cases and next in the etiology, impaludism, influenza, rheumatism, gout, uterine affections and rhachitism The usual treatment was deep injection of mercuric iodid, and then potassium iodid administered internally, in tuberculous cases, deodorized iodoform in powders Paracentesis of the anterior chamber and iridectomy, seem to act favorably in chronic cases —*Presse Méd*, November 19

New Symptoms of Measles —Meunier has noted a marked loss of weight in persons during the incubating stage of measles, when there are no symptoms as yet to indicate the disease It is noticeable four or five days after contagion and amounts on an average, to 300 or 50 grams a day in child of 1 to four years It may even attain 790 grams This progressive loss of weight continues several days and seems to be independent of the age, or severity of the affection afterward He suggests that it may prove important in indicating and isolating the disease in schools, etc —*Gaz hebd de Méd*, 89

Formulæ for Cuticolor Ointments and Pastes —Rausch has been devoting much time to studying the best combinations for this purpose and testing them He recommends the following formulæ, all for external use The ichthyol preparations are adapted whenever an enemic and vaso constricting effect is desired Sublimate can be added at will without affecting the color 1 Cuticolor zinc ointment Armenian red bole 03 gm, glycerin 6 drops, zinc ointment to 10 gm 2 Una's zinc paste Armenian bole 24 gm, glycerin 20 drops, eosin (1 to 500), 8 drops, zinc paste 40 gm 3 Una's zinc sulphate paste Armenian bole 24 gm, glycerin 20 drops, eosin (1 to 500) drops, paste of zinc sulphate 40 gms 4 Una's ichthyolized zinc paste ichthyol, 1 per cent, zinc paste 30 gm eosin (1 to 500) 16 drops 5 Ichthyol, 2 per cent, zinc paste 40 gm, eosin (1 to 500), 20 drops 6 Ichthyol, 3 per cent zinc paste 40 gms, eosin (1 to 500), 22 drops 7 Ichthyol, 4 per cent, zinc paste 40 gm, eosin (1 to 500), 40 drops 8 Ichthyol, 5 per cent, zinc paste 40 gm, eosin (1 to 100), 12 drops Cuticolor gelanthum Armenian bole 02 gm, eosin (1 to 500) 2 drops, zinc oxid 4 gm, glycerin 3 gm, gelanthum 20 gm —*Journ de Méd de Paris*, November 27

Sanguinoform —C S Engel of Berlin has applied to therapeutics the physiologic fact that the red blood corpuscles in the embryo of mammals are nucleated and peculiarly rich in hemoglobin He procures the embryo of the pig in large quantities, fresh from the slaughter houses, and produces a powder from the blood forming organs, desiccated and pulverized, with two parts sacch lact, a trifle ol menth pip, and for some cases, 2 per cent ferrum oxydatum This is administered, per os, three times a day, each dose, from what can be taken up on the point of a knife to half a teaspoonful He is much gratified at the results attained, which correspond to the theoretic assumption of the value of this treatment with physiologic hemoglobin In a boy of 7 years, the specific gravity of the blood rose from 1046 to 1057, the hemoglobin increased rapidly from 40 to 60, and finally to 75 per cent, in the course of two and a half months His investigations were made on ten subjects, mostly chlorotic girls, and every two or three weeks the blood was carefully tested for its specific gravity, alkalinity, amount of hemoglobin, proportion of red and white corpuscles, blood plates, etc His communication in the *Deutsche Med Woch* of November 24 is a theoretic and practical study of our present knowledge of the subject

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE, INCLUDING POSTAGE

Per Annum in Advance	$5 00
Foreign Postage	2 00
Single Copies	10 Cents

In requesting change of address, give old as well as new location

Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION
No 61 Market Street (Occidental Bldgs), Chicago Illinois

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION

This is obtainable, at any time by a member of any State or local Medical Society which is entitled to send delegates to the Association All that is necessary is for the applicant to write to the Treasurer of the Association, Dr Henry P Newman, 100 Washington St , Chicago, Ill , sending him a certificate or statement that the applicant is in good standing in his own Society, signed by the President and Secretary of said Society Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership

On receipt of the subscription the weekly JOURNAL of the Association will be forwarded regularly

Gentlemen already members of the Association should send their annual subscription to the Treasurer or direct to the JOURNAL office

All communications and manuscript of whatever character intended for publication in the JOURNAL should be addressed to the *Editor* and all communications relative to the business of the JOURNAL proof sheets returned, or in regard to subscriptions should be addressed to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 61 Market Street (Occidental Buildings), Chicago

Original communications are only received with the understanding that they are exclusively contributed to this JOURNAL

SATURDAY, DECEMBER 24, 1898

INJURY OF THE SPINAL CORD WITH SYMPTOMS OF SYRINGOMYELIA

When the condition of syringomyelia was first described, it was believed that the accompanying symptoms were distinctive and characteristic, and that the peculiar sensory dissociation observed was pathognomonic, but time and experience have not unqualifiedly sustained these earlier notions It has been abundantly shown, clinically and pathologically, that the symptoms, except as to their mode of onset and course, bear no relation to the process itself or to the nature of the lesion, but rather to its situation and extent So called syringomyeliac symptoms have been observed in association with cavities, neoplasms, hemorrhages, traumatism and other lesions of the spinal cord, and the manifestations vary in accordance with the structures involved Most often the multipolar ganglion-cells of the anterior horns of the cervical cord are affected, so that weakness and wasting of muscles in the upper extremities result, while involvement of the adjacent pyramidal tracts gives rise to spastic phenomena, and invasion of the posterior columns is responsible for interruption of sensory impulses, tactile and muscular sensibility often escaping, while pain-sense and temperature-sense are usually impaired or lost As stated, there is however, no rigid invariability of the symptoms or in their distribution or extent

An instructive case of vertebral injury, with involvement of the cervical cord, and presenting symptoms of syringomyelia, is reported by LLOYD in the Spring number of *Brain* for the present year, with some interesting reflections on the course of the sensory tracts in the cord A laboring man, 60 years old, had, at the age of 30, received an injury to the dorsal and cervical spine by being jammed between two canal-boats, but recovery took place after five weeks' treatment At the age of 57 years, the man was buried in a landslide for an hour, and on returning to consciousness after twenty-four hours, the *left* arm and leg were found paralyzed Contractures subsequently developed The muscles of the arm and shoulder were, besides, atrophied and the seat of fibrillary contractions Clonus was marked in the fingers, wrist and ankle on both sides, and the phenomena of so-called spinal epilepsy were readily elicited in the legs Appreciation of pain was lost on the entire *right* side of the body, excepting the face, temperature sensibility in the *right* lower extremity and in a small area on the anterior aspect of the right side of the chest, and tactile sensibility in the *right* leg An angular deformity involving the seventh cervical and the first and second dorsal vertebræ was visible, as well as a depression in the lumbar region

Death resulted from some intercurrent affection five years after the second accident On postmortem examination, in addition to evidences of extensive fracture of the cervical vertebræ, the dura was found adherent to the body of the sixth vertebra, while an angular deformity at the junction of the fourth and fifth vertebræ compressed the cord into a ribbon at the exits of the fifth, sixth and seventh cervical roots At the level of the third and fourth roots the dura was twice as thick posteriorly as anteriorly On histologic examination, the greatest destruction was found at the level of the seventh cervical verterbra and on the left side, including the pyramidal, cerebellar and antero-lateral ascending tracts, the anterior and posterior horns, the anterior portion of the posterior columns and the gray and white commissures The destruction extended across to the right side of the cord along the commissure, but in its greatest intensity did not reach the horns of the right side There was, however, some diffuse degeneration of slight degree in the antero lateral column of the right half of the cord, and the anterior and posterior horns were misshapen and slightly degenerated Ascending degeneration of the left cerebellar and antero lateral tracts could be traced to the medulla oblongata, and two well-defined streaks of degeneration in the posterior columns, the one extending from near the gray commissure backward through the postero external column, and the other from a point in the postero internal column at the posterior longitudinal fissure backward and outward, but not to the periphery of the cord, could be traced to the level of the pyramidal decussation There was marked descending degeneration of the left lateral pyramidal tract throughout the cord, slight degeneration of the right pyramidal tract, slight diffuse degeneration in the posterior columns and degeneration in the comma-zones for a short distance downward.

It is pointed out that while no cavity had formed in the cord, the seat of the lesion, particularly in its distribution about the central canal and the central gray matter, corresponded with that observed in many cases of syringomyelia. The segmental loss of tactile sensibility confined to the right leg is considered possibly hysteric, from the absence at and above the seat of lesion of any serious involvement (such slight implication as existed being symmetric) of the postero-internal columns, through which the sensory fibers from the lower limbs pass. PRINCE, in the article on syringomyelia, in DERCUM'S "Text-book on Nervous Diseases" (p. 590), cites BRUHL and CHARCOT as authority for the statement that "the loss of sensation in the arms occurs in zones, extending in a circular manner around the limbs, as in hysteria, and does not follow the anatomic distribution of the nerves in neuritis. This zone-configuration is thought to correspond with the arrangement of the spinal centers."

The thermanesthesia and the analgesia in this case are considered as *pointing unerringly to the conclusion* of VAN GEHUCHTEN, that in all probability pain-sense and thermic sense are transmitted through the gray matter by way of cells whose axis cylinders become the fibers that constitute especially the antero-lateral ascending tract, and these fibers are, according to the same authority, crossed. The fibers for tactile sensibility are believed, on the contrary, to pass up the posterior columns on the same side.

USE AND ABUSE OF COCAIN.

When we reflect upon the almost universal use of this drug in medical and surgical practice it is difficult to understand that but fifteen years have elapsed since its introduction to the medical world. Even at that time it was thought by those acquainted with its uses that a new era had been opened, particularly in the realm of minor surgery, but probably its most sanguine adherents little reckoned that in so short a time it would become so well known as to escape the bounds of professional watchfulness. Its advantages in small and short surgical operations, where without its use general anesthesia would become almost imperative, has been exemplified times without number. The injection of a 0.5 per cent. solution into the deeper layers of the skin along a proposed line of incision will make that incision practically painless, and abdominal sections have been performed under this local anesthesia alone.

By its invaluable aid wonders have been accomplished in ophthalmic surgery. Previous to the introduction of cocain, when a cataract operation must perforce be performed under a general anesthesia, the operators were not at all sure but that they would find the vitreous upon the primary dressing, forced out of the wound by the retching and vomiting efforts so frequently happening after the administration of an anesthetic, or perhaps the violence of these efforts exciting a hemorrhage into the vitreous, in either case interfering absolutely with the success of the operation.

In nose and throat practice, cocain finds its most frequent use, and we might add, abuse. Not only are the various operations along these passages facilitated by anesthetizing the mucous membranes with solutions of this drug, but other important purposes are also well served, we are able to tell if a turbinate body is congested or whether the chronic congestion has led to true fibroid hypertrophy, by noting whether or not a weak solution is able to materially reduce the size of one of these bodies, if so congestion is principally to blame, and vice versa. Suppose that we are dealing with a patient with congested turbinates, and a cocain solution is applied, contraction in these erectile tissues soon follows, and the rhinologist is then vastly better able to discover other pathologic lesions that may be situated posteriorly, while operative procedures are far more easily performed by thus enlarging the field of vision. Again, when caustic drugs, either in strong solution or in pure form, are to be applied, it is the part of humanity to relieve the patient of all possible suffering in so far as it is not inconsistent with his safety.

In acute rhinitis, by contracting the vessels of the nasal mucous membrane, the turbinate bodies are reduced in size, the nasal cavity is freely opened, and the patient much relieved, but with the wearing off of the beneficial effect of the cocain, which unfortunately takes place very quickly, the vessels become more congested and tortuous than before, and the condition is aggravated. Resort is again made to the spray, and the same farce, or rather tragedy, is again enacted.

Before we had any realization of the hidden dangers of the drug, slaves to cocain were detected in all parts of the world where this terrible servant had been introduced. The servant had again become the master and a master that demanded the very lives, by inches, of his slaves. Even in comparison with morphinism but a small proportion of cocain habitués are ever able to throw off the shackles of their tyrant, and the results of the latter drug are even more deleterious and deadly than the former. It is to be deplored that so many of our profession have yielded to its devastating influence, and all the more so that anyone, professionally or otherwise, is so easily able to replenish his supply at the nearest drug store without prescription.

Unfortunately, in the early stages of the habit, the mental faculties as a rule are greatly benefited, and more head-work, if it may be so termed, can be performed. Cases without number have been reported of this influence among professional men, physicians, lawyers and even ministers. We all remember how Dr. CONAN DOYLE makes his great hero, Sherlock

Holmes, perform his feats of reasoning only after the instillation of a few grains of cocain into his veins As in the morphin and chloral habits, it takes progressively increasing doses of cocain to satisfy the craving, and cases of taking as high as sixty grains in twenty-four hours have been reported Later the drug exerts a degenerative action on the nervous system, and the will-power is completely lost Upon the other tissues the condition becomes similar to that which in children we have been pleased to term marasmus As regards the histologic effect upon the various organs many experiments have been made upon the lower animals, and we have reason to believe that similar changes take place in man In the brain and cord there is usually a well-developed hyperemia On microscopic examination there are found degenerative changes in the large ganglionic cells of the cord and in other large collections of these cells in various parts of the body, particularly the cardiac ganglia SCHEPPEGRELL, who has looked into the subject rather closely, makes the following statement "In chronic poisoning the degenerative processes are found to have advanced farther in the cells of the spinal cord and medulla, minute cavities, atrophy and hyaline degeneration of the muscular tissues, in the nerve ganglia there is fatty degeneration, minute cavities and simple atrophy, in the liver atrophy of the hepatic cells is present The vascular system is most affected in the spinal cord, there being cellular proliferation and hyaline degeneration of the coats In the heart and liver an atrophic condition of the tissue is found, also a swelling of the endothelium of the capillaries of the cardiac ganglia "

Acute cases of poisoning are by no means uncommon, as every rhinologist will testify Especially are the symptoms liable to follow the spraying of the nose with the usual strength used, 5 per cent, as a preliminary to examination and treatment The nasal mucous membrane having a greater absorbing power than that of the mouth and pharynx, toxic symptoms are more apt to follow applications to the former In mild cases of poisoning, the pupils dilate, the pulse becomes slow, the skin exhibits a marked pallor, the patient is often loud and boisterous in his conversation, in more pronounced cases, the face becomes cyanosed, the pulse rapid and thready, and syncope may supervene Finally coma, with stertorous respiration and abolition of the reflexes may come on with the most startling rapidity, followed closely by dissolution The amount of the drug appears to have little influence in the production of mild or grave symptoms, idiosyncrasy here being of the greatest importance The time elapsing between the application of the solution and the establishment of toxic symptoms also varies within wide limits

One word as to the substitution of drug habits Attempts have frequently been made to cure morphinism by the use of cocain, and vice versa, this either on the advice of physicians or the victim attempting to take the cure into his own hands This is not to be countenanced for a moment in that the habitué becomes a slave to both, and the breaking down of his nervous system occurs even more rapidly than before Many persons become victims through the pernicious habit of taking snuff Probably all preparations of this contain cocain in larger or smaller quantities, and the physician may often be put upon the right track by obtaining the history of such a habit

SCHEPPEGRELL, through his residence in New Orleans, has been enabled to add to the literature a peculiar phase of the cocain habit He states that among the southern negroes, not a few of them draw up crystals of some salt of cocain into the nose The object of this is not to obtain a free breathing space, but on account of the exhilaration a small quantity produces when taken in this manner

Lastly, we must remember the many blessings that the proper use of cocain has bestowed upon mankind, at the time not forgetting that we are dealing with a two edged sword We should never put the drug into the hands of the patient himself We should endeavor to find some means of preventing its dispensation by druggists without a prescription by a qualified physician We should not in our private offices be too prone to apply it indiscriminately to all cases where a little suffering is to be borne When it does become necessary to resort to its use in private practice, we should not allow our patient to know what drug is being used With these retrictions, cocain has the greatest power to yield good results, and may in time become an unmixed blessing and regain the place in the profession that of late years it seems to have lost

ALCOHOLISM IN FRANCE

MR ARCHDALL REID, in a publication of his which has been recently widely quoted, considers alcohol as working out a benefit to the race by exerting a selective action on degeneracy, and thus in time producing a racial immunity to its own effects There may be a grain of truth in this opinion, but in some respects it is open to question, and it does not so fully justify the conclusion obviously deduced by many, and apparently so intended by the author, that it is rather a good thing than otherwise for the race If it acts in this way, so, it may be said, do tuberculosis, syphilis and other pests of civilization, which also cull out the physically and otherwise defective, and to the extent that they leave only the more resistant and prudent, may be said to improve the race average, and also to develop in time a certain degree of immunity to their attacks That alcohol can be said to really act in a similarly remotely beneficial way while directly and immediately disastrous in its effects, is far from being an established truth, either sociologically or physiologically, and as an abstract truth it is still more open to dispute. We may speak approvingly of the fool killer as serving a useful purpose, but he becomes a very serious functionary if the general population, as a distinguished Briton once said of his countrymen, are mostly fools.

It is of interest in this connection to note the spread of the agitation against alcohol in countries, where, if a real immunity could be produced by long-continued usage, it ought now to exist. In our own country and in Great Britain the question is comparatively an old one, and there is little doubt that the conditions here and there are better in this regard than they formerly were. Most people, however, would be inclined, from a survey of the facts, to attribute whatever good has resulted rather to a public sentiment in favor of temperance that has grown up during the last fifty or sixty years than to any immunity derived indirectly through the vices of ancestors. In continental Europe, the general interest in the medical and sociologic aspects of the alcohol question, judging from the active public efforts in this direction is of more recent date, but it seems to be increasing, and may be taken, in some measure, as an index of the greater spread of the evils of alcoholic excess. In France, a country that should show an immunity if any can, the conditions appear to be serious enough and to amply justify apprehensions of national disaster from alcoholic degeneracy. According to a recent paper by Prof. M. DEBOVE in the *Presse Médicale* of November 16, the consumption of alcoholic drinks, calculated in figures of absolute alcohol (100 per cent.), is at present 14 liters per inhabitant, as compared with 10.5 liters in Germany, 9.25 in Great Britain and 6.10 in the United States. If distilled liquors only are included, as in a recent thesis by M. RUYSSEN, quoted by DEBOVE, the amount is 4.54 liters per head as compared with 2.85 liters in this country. The figures he gives are the more significant when comparisons of recent and former years are offered, and we see that the consumption of alcohol in distilled spirits per head has risen in France from 1.1 liter in 1830, and has decreased in this country from 5.75 liters in 1860 to the present figure of 2.85. France, a country where alcohol in the form of wines and other fermented liquors has been almost universal and which ought reasonably to have thus acquired an immunity, if such were possible, has taken more and more to stronger drinks till it now leads the list, while this country, which a few decades ago had a still higher ratio, has fallen back in their usage to nearly the lowest figure, and is well down toward the minimum in the usage of all forms of alcohol-containing beverages. The number of cabarets in France has increased from 281,000 in 1830 to 500,000 in 1897, and indeed in some departments there appears to be one dramshop to every twenty or thirty adult inhabitants. New York and Chicago, with their numerous enough saloons, appear very moderately equipped in this regard when compared to Paris with its 33.000 cabarets, or one on an average to every three or four houses. M. DEBOVE sarcastically says, in view of the rapid spread of these establishments, that he does not despair of yet seeing street cars turned into ambulant saloons and thus spreading throughout Paris the benefits of alcoholism.

It would seem that there might be some error in Professor DEBOVE's figures, they certainly appear extreme, but we have no means of contradicting them. If correct, the economic aspects of this overgrown industry, if such it can be styled, ought to stir up French statesmen and legislators. France certainly appears to be well in the way of obtaining all the "benefits of alcoholism" to the full satisfaction of ARCHDALL REID and others of his class who can discover these beneficial effects.

While France seems to be in the lead in this regard, other European countries are also advancing in the same line. Belgium appears to be one of these, and some years ago similar complaints were uttered by a distinguished Austrian alienist in regard to the spread of the use of stronger alcoholics in southern Europe. The anti-alcohol congresses that have been held within the last few years and have been attended by some of the highest medical authorities, are a sign of the times that the need of some check is needed for the increasing alcoholic consumption. The movers in this work are not fanatical prohibitionists or even, as a rule, advocates of total abstinence at the present time—they are chiefly scientific medical men who can see the evils they wish to check. In a country like France, that seems just now, to use a colloquialism, to be going the full pace, there is certainly room for their best efforts.

THE ARMY MEDICAL DEPARTMENT OF THE FUTURE.

Under the above caption, in our issue of December 3 last, we suggested the likelihood of a large increase of the personnel of the Medical Department of the Army in the immediate future. We considered that for the Regular Army required by the United States, the present strength of the Medical Department, 192 officers, would have to be increased to at least 450 by the appointment of 258 medical men to fill original vacancies. This we regarded as the very minimum of needful expansion. Since then, three bills providing for the reorganization of the army have been introduced into the Congress of the United States. The precise wording of these bills is given in another column. It suffices for our present purpose to say that one provides for an increase of 404 medical officers, and each of the others for an increase of 309, making the total of the one 598, and of the others 501. It is evident that some action will be taken by Congress to increase and reorganize the regular army, so that the volunteer troops may be relieved from service and returned to their homes, and it seems probable that this action will involve a large addition to the present medical force This is the point which we desire to bring to the notice of the younger members of the Association, that those of them who have military aspirations may not be taken unawares by the announcement of the convention of an examining board to fill vacancies in the corps Army medical appointments have been made by competitive examination since the days of the Revolution In 1775 the Provincial Congress of Massachusetts Bay required each candidate for a position in the Medical Department to be subjected to a close examination by qualified medical men, and there was nothing *pro forma* in the work of that early board, for it is on record that eight out of fourteen candidates were rejected for failure to come up to the standard The system then instituted has never ceased to be the rule In the coming expansion of the corps, it is not likely that appointments will be made without this examination In fact, all the bills now before Congress provide for the examinations now required by law

No action will probably be taken by the Surgeon-General of the Army looking to the selection of the best men for the new position until these positions have an actual existence by legislation, but medical men desirous of filling them may do much in the way of special preparation to meet examining boards, if they recognize the likelihood of the speedy appointment of such boards We know from the "Circular of Information for Candidates seeking Appointment in the Medical Corps of the United States Army," that applications for permission to appear for examination are in order at all times This circular, issued from time to time by the Surgeon-General of the Army, gives the Constitution of the Medical Department at the date of its issue, and states the pay and emoluments and the duties and privileges of army medical officers, the method of making application and the manner and scope of the examination to which candidates are subjected, illustrating the general character of the latter by a series of questions on the various subjects taken from the records of a recently convened board

At this present writing, the Chairman of the Military Committee of the House of Representatives is reported as having stated his belief that a bill reorganizing the army will be passed at a very early date Our young friends should be prepared for prompt action by the Surgeon-General of the Army on the passage of this bill

CORRESPONDENCE

Stammering

CORTLAND, N Y , Dec 13, 1898

To the Editor.—In a late number of the JOURNAL there was a note as to the cause of stammering that startled those of your readers who heard the after dinner speech of Mr Henry Guy Carleton To see the rich jokes of this excruciatingly funny stammerer presented as an item of medical interest is too much But when we see it this week copied into the *Philadelphia Medical Journal*, sandwiched in between articles on the pure flour law and under average life risks, the matter becomes serious Would it not be well to mention that his comma bacillus of stammering is not to be taken so seriously as it reads? Yours respectfully, F W HIGGINS, M D

ASSOCIATION NEWS

Section on Laryngology and Otology —The program for the Section of Laryngology and Otology has been filled, and no more papers can be accepted for the Columbus meeting in June, 1899

BOOK NOTICES

Physician's Visiting List for 1899 Philadelphia P Blakiston's Sons & Co 1998 Leather cover, $1, plain binding, $0 75

This is the forty eighth year of the publication of this handy visiting list, which will be useful to any physician It contains, besides the blank leaves, a calendar, tables of signs, weights and measures, dose table and a "new complete table for calculating the period of utero gestation "

Medical Record Visiting List for 1899 New revised edition Leather New York Wm Wood & Co 1898

In this edition the matter useful in emergencies has been increased, an important change being ' in the list of both apothecaries' and decimal systems, and the indication of such as are official " There are also the uses tables concerning matters the physician often wishes to refer to, as weights, measures, solutions, etc

PUBLIC HEALTH

Technic Instruction for Religious Orders,—The recent French Catholic Medical Congress passed resolutions urging the training of all sisters of charity in the professional care of the sick and the instruction of the students in seminaries and theologic colleges, in practical hygiene, by a physician —*Jour des Sci Méd de Lille*, November 26

Influenzal Prevalence —A mild form of la grippe has been reported by many physicians of New York City and vicinity, a few cases having appeared as early as the middle of November A large proportion of the cases have taken on the form of an acute coryza with soreness of the throat The attack almost invariably begins with a chill, and headache and pains in the limbs

New York State Pathologic Laboratory —The ninth annual report of the New York State Commission in Lunacy, just issued, contains a full report on the methods and principles underlying the pathologic work of the State hospitals in the central laboratory in New York City According to the *Charities Review* November, this report "should receive careful consideration, for it not only develops methods of investigation, but presents a new view of the pathology on insanity, which by common admission is less perfectly understood than any form of disease afflicting the human race , and, if any hope of alleviating this curse is held out, in a better understanding of its nature and prevention, no possible means should be withheld or no lack of encouragement toward its thorough investigation " Dr Van Gieson, the director of the institute, is clear and explicit in his demonstrations and deductions, and can not well be misunderstood —*Medical News*

Scallops in Sewage Waters —According to the *Medical News* for December 3, Fairhaven, Conn , has a large industry in shell fish which is being injured by sewage pollution So large have become the quantities of factory refuse and sewage that pour into the docks that pleasure boats no longer anchor at that point When the New York Yacht Club gave this as a reason for omitting its annual visits it was laughed at, but now the citizens appreciate that the yacht owners discovered a condition which is becoming serious When the Vineyard steamers went out this summer there was a trail of stench in their wake as they stirred the water with their paddles, which demonstrated how polluted the river is with filth Business at the Fairhaven bath houses has fallen off, for it is only at high tide, and often not then, that the water is sufficiently clear to tempt a bather Scallops taken in the upper harbor have caused fever among those who have eaten them, and physicians have declared that the shell fish which live in the mud on the shore are dangerous to eat on account of the sewage Many are agreed that there are things more serious than high taxes, and a menace to the health of the community is not to be lightly regarded

Epileptic Colony in New Jersey —Under an enactment passed in 1898, an "epileptic village" is about to be inaugurated in the southern part of New Jersey The act defines that this colony shall be governed by six managers, constituting a non partisan board, having a three year tenure This board is instructed to select a suitably located site, provided the cost of the same with the buildings on it shall not exceed $15,000 The law further requires that all plans for improvements to the property shall be submitted to and approved by the governor of the State It is understood that a suitable site, consisting of about two hundred acres of land in the central part of the State, near Princeton, has been secured, that there are some good houses on the place, and that it is the intention of the managers to get enough of these buildings in condition to receive about twenty patients during the present year Patients are admitted on a certificate signed by at least two freeholders of the town or township in which the applicant resides which certificate must be attested before a magistrate Freeholders in New Jersey exercise about the same powers and duties relative to charitable work as is exercised by superintendents and overseers of the poor in New York The certificate made by the freeholders must also be certified to under oath by at two physicians, who must set forth the fact that the patient is an epileptic —*Charities Review*, December

Diet for Laboring Men —Secretary Wilson of the Agricultural Department has been engaged in an investigation for the purpose of throwing light upon the most suitable varieties of food for laborers, mechanics and others whose daily work involves the expenditure of great muscular efforts His agents in this research have studied the dietary of athletes and others, the amount and variety of whose food was measured and regular Extensive examinations have been made on farms, in the shops and the factories, but the results there were not so satisfactory as at Yale, Harvard and other places, where better facilities were afforded for making tests Agents of the Department were present at both New Haven and Cambridge while the crews of those universities were in training for their big rowing match last spring, and kept accounts of the amount and variety of food furnished to the men There is no absolute rule as to the diet of the athletes, and trainers of men preparing for feats of strength and endurance have widely varying ideas on this subject Investigations are to be carried on in other lines, with the idea in view of finding out what foods are the most nutritive for hard working men Experiments with bread and cereals have been carried on at the University of Maine, and at the University of Tennessee digestive experiments were made on the students Interest in the nutrition investigations being made by the Agricultural Department is spreading all over the country Secretary Wilson states that among the gratifying evidences of this fact is the recent appointment of one of his agents as a consulting expert to the Lunacy Commission of the State of New York on the food and diet of the insane In connection with its other duties this commission is charged with prescribing the diet for the inmates of the asylums for the insane throughout the State The Department of Health of the City of New York is arranging to issue circulars of practical information regarding the nutritive value and preparation of foods for general distribution in that city

Kings County Hospital, New York —This important institution, located at flatbush, Long Island, is the subject of a special official report by Commissioner T G Bergen This hospital for the poor of Kings county has in former years been the scene of disgraceful overcrowding and other scandal, growing out of years of political jobbery Under the management of Dr J T Duryea, medical superintendent for the past two years, important improvements have taken place, not only in the appearance, but in the accommodations of the place Not only have all the wards been renovated and better furnished and supplied and the operating room established, but a special home and rooms for trained nurses are already furnished, as well as a house for the resident physician and special rooms for the members of the medical staff At the present time the presence of the professional nurses in their uniforms, with junior nurses or pupils aiding them and learning their profession, the improved condition of the quarters for the medical staff, and the opportunities furnished for instruction to medical men, graduates of medical schools, are a mark of an up to date system For the first time in its history this hospital is now making a return to the medical world for the benefit of science and, therefore, for the good of humanity, for all the sums which in recent years have been spent unscientifically upon its wretched maintenance It is proposed, with the additional sum of $100,000, granted by the Board of Estimate of 1898 to furnish additional wings to the main building for the accommodation of two hundred or more patients, for a better home and resting place for all the nurses, away from their patients when off duty, and possibly for better accommodations for the idiots and feeble minded and for convalescents and also to create an amphitheater for the purpose of clinical instruction In this way this hospital may yet become a credit to the people and a blessing to the sick poor of the Brooklyn Borough Nearly 680 patients are now under treatment at this hospital, very many of these afflicted with diseases which prevented their admission into other hospitals of the city

SOCIETY NEWS

Washington Microscopical Society —At the regular meeting of the Washington Microscopical Society, held December 13, a joint paper was read by Drs George T Howland and Henry A Robbins, entitled "The Gonococcus Neisser," and the different methods of staining

Cincinnati Society for Original Research —At the regular meeting, December 8, the following program was given Dr Sattler, "Anatomic Basis of Temporal Neuralgia,' Professor Edwards, "Plans of the Biologic Laboratory of Cunningham Hall," election of Officers

Association of the French Medical Press —An international congress of the medical press is being discussed by this Association, and efforts are under way to have it organized as a special Section of the International Medical Congress of 1900 If not found feasible, it is proposed to hold it as an autonomous congress A congress of medical deontology is also under discussion, and the organization of a medical club in Paris —*Presse Méd*, November 12

Northwestern Ohio Medical Association —The fifty fourth meeting held at Lima, Ohio, December 8 and 9, 1898, was the largest and one of the most interesting meetings of the association Twenty new members were admitted and 122 applications for membership received The next meeting will be at Findlay, Ohio, in December 1899 The following are officers R E Jones, Gower, president, W K Dickey, Toledo, first vice president, B S Leonard, West Liberty, second vice president, J P Baker, Findlay, secretary, T M Gehrett, Deshler, assistant secretary and treasurer

American Physiological Society —According to *Science*, November 4, a meeting of the American Society of Naturalists will be held in New York, December 28 to 30, at which arrangements will be made for sessions of a number of affiliated scientific organizations Among these, it may be stated that the American Physiological Society and the American Psychological Association will meet on Wednesday, Thursday and Friday, and probably the same days will be chosen for the American Morphological Society, the Society for Plant Morphology and Physiology, and the Association of American Anatomists The Section of Anthropology of the American Association will meet on Tuesday, followed on Wednesday by the American Folk Lore Society

Washington Chemical Society —At the recent meeting of the Washington section of the American Chemical Society, held at the Cosmos Club, Dr E A DeSchweinetz of the Columbian Medical School, read a paper on the "Estimation of Nicotin," and reported his past investigations and experiments with the curative serum for hog cholera He also exhibited liquid air, which he served with a ladle and demonstrated its wonderful and interesting properties

Society of Ophthalmologists and Otologists —The November meeting of the Society of Washington Ophthalmologists and Otologists was held at the residence of Dr J H Bryan, Dr Swan M Burnette, president, in the chair Dr Bryan read a paper entitled "Chronic inflammation of the Middle Ear" He discussed, at some length, the differential diagnosis, and pointed out the particular class of cases which should and those which should not receive operative interference Dr Suter read a paper on the "Twisting Power of Cylindric Lenses" An interesting discussion followed both subjects, and was participated in by Drs Burnette, Wells, Richardson, Muncaster and Belt

Philadelphia County Medical Society —At the last stated meeting of the Philadelphia County Medical Society, Dr Lawrence Flick read a paper on the subject of "Contagion, Its Meaning and Sanitation" In the paper the speaker first introduced the philology of the word "contagion," after which he cited the definition as expressed by different medical writers Speaking further on the subject, Dr Flick thought that the word "contagion" should include the word "infectious" Drs A A Eshner and Solis Cohen both dissented from the view as expressed by Dr Flick, and held to the opinion that the word "contagion" should be used in rather the restrictive sense, while the word "infectious" should be used more broadly and include the word "contagion" Dr H Ferree Witmer presented an unusual case of aphasia affecting a lad about 15 years of age Suitable charts and diagrams were also exhibited to show the locality of the lesion Dr A J Downes read a paper on the "Bottini Operation for Enlargement of Prostate Gland," and exhibited the instruments and battery necessary to complete the operation A case in which an aged person had been treated for this affliction with distressing symptoms, at the hands of the speaker, had shown a wonderful improvement Only five minutes are consumed in the operation, which seemed relatively free from danger

International Congress of 1900 —Dr Lannelongue, chairman of the Organizing Committee of this medical congress, has announced that the time for holding the sessions has been fixed for Aug 2 to 9, 1900 The entrance fee, amounting to 25 francs, can either be sent to the general manager at Paris or to the committees who are acting in foreign countries Every subscriber will receive a document showing the extent and arrangement of the Section in which he is interested The congress is divided into five Sections 1 Biology *a* anatomy, descriptive and comparative, *b*, histology, embryology, teratology, *c*, physiology, physical and biologic chemistry, and *d*, anthropology 2 Medicine *a*, general and experimental pathology, *b*, bacteriology and parasitology, c, pathologic anatomy *d*, visceral pathology, *e*, medical diseases of children *f*, therapeutics and pharmacology, *g*, nervous diseases *h*, mental diseases, and *i*, dermatology and syphilology 3 Surgery *a*, general surgery, *b*, surgical diseases of children, *c*, surgery of the urinary organs, *d*, ophthalmology, *e*, laryngology and rhinology, and *f*, otology 4 Obstetrics and gynecology 5 State Medicine *a*, hygiene, sanitary medicine and epidemiology, *b*, forensic medicine, and c, military medicine and surgery, naval medicine and surgery, and colonial medicine Two general meetings will be held, one on the opening day and the other at the end Only those members nominated and invited by the Committee will be able to read papers All proposals relative to the work of the congress must be handed in to the Committee before May 1, 1900 —London *Lancet*, November 26

Washington Obstetrical and Gynecological Society —The two hundred and eighty ninth meeting of the society was held December 2, at the residence of Dr Joseph Taber Johnson Dr Bovee presented two Fallopian tubes which he had removed In either tube hematosalpynx and pyosalpynx was found, the blood tumor occupying the tubes nearest the uterus while the pus cavity occupied the fimbriated portion Dr J T Johnson presented two large, fibroid uteri, which he had recently removed The first was removed from a white woman, aged 58 years, who gave the following history Eight years ago she consulted Dr Murphy at Columbia Hospital, and he performed an abdominal section but declined to remove the tumor, on the ground that it was not a suitable case for operation She applied to Dr Johnson at the Georgetown University Hospital two weeks ago, who successfully removed the growth The growth presented a large polypus in the interior of the uterus The second was removed from a white woman, aged 38 years This was a large, pedunculated fibroid which grew in the broad ligament As the uterus was found to be diseased, that was also removed Both patients made an excellent recovery The paper of the evening was read by Dr Samuel S Adams, on the diagnosis of tubercular meningitis in infants Dr Adams discussed particularly the question of diagnosis and pathology He gave the history of three interesting cases, which he had recently seen in consultation with other members of the society The patients died, and he regretted that no postmortem was permitted The discussion was opened by Dr E L Morse, and further participated in by Drs Adams, Smith, H L E Johnson, Winter Cook and Acker Dr D W Prentiss gave the history of a case of syphilitic fever No history of specific character could be obtained in the beginning of the attack The patient had chills and fever daily Finally, a suspicious sore throat suggested syphilis Iodid of potash and protiodid of mercury promptly cured The chart showed daily fever, often high, of a typic, regular character, but no corresponding increase of pulse

Washington Medical Society —At the meeting of the society held November 30, Dr William C Woodward read a resolution of regret on the death of Dr Charles M Hammett, which was formally adopted Dr Dallas Bache, U S A, and Dr Wm H Gardiner were elected members by invitation Dr Mauss presented a case of calculus pyelonephritis and calculi in the gall bladder, with intermittent fever The patient had been a sufferer for many years and at one time was supposed to have been suffering from peritonitis, and on another occasion was supposed to be in labor Repeated urinary examinations showed negative results Operated on for ovarian disease, the tubes and ovaries were removed The patient had four attacks of renal colic and subsequently pus was found in the urine Postmortem showed a large calculus in the left kidney and three calculi in the gall bladder Dr Glazebrook presented two kidneys and gave following history The patient, aged 41 years, suffered from inguinal hernia, urethritis stricture and rupture of the urethra, urethra sacral fistula cystitis retention and calculus The stone was crushed and removed per urethra Postmortem showed the left kidney weighed one ounce, urethra fibrans Right kidney weighed fifteen and one half ounces The ureter contained a large calculus and was distended from that point to the kidney Section of the kidney showed sloughing and infarctions Dr W W Johnston read a paper on the differential diagnosis of diseases characterized by regular intermittent fever He said that as a rule disease accompanied with chill, fever and sweating, is usually assumed to be malarial, in a malarial region The following of such a rule is often the source of error He mentioned the following fevers which presented similar symptoms malaria hepatic, ulcerative endocarditis vegetative endocarditis, rheumatic, acute tuberculosis and syphilitic In malarial, the fever begins with chill, and the temperature is at its height in four or five hours, followed by sudden sweat, secretion of urea is increased Where the initial attack or the three stages continue for less than ten or more than twelve hours, diagnosis is doubtful The spleen is usually enlarged and the skin sallow Finding the presence of the plasmodium confirms the diagnosis In hepatic fever there is suppuration or inflammation of the bile ducts, chill, no prodromes, irregular course, chill usually in afternoon or evening Rise of temperature begins with chill Sweating is least constant, usually short, urea decreased for two or three days between fever, no pain, no icterus, no physical signs, except biliverdin in the urine Diagnosis is by exclusion and by sudden cessation In endocarditis, one of the most characteristic symptoms is intermittent fever, chill at no fixed hour, highest evening temperature 102 degrees, followed by sweating, pulse rapid, exhaustion marked, interval of a day between fever, leucocytosis, organisms in blood, results fatal, embolic symptoms In rheumatic fever there is chill every day, never exhausted, and stiff joints In one case Dr Osler noted the presence of small subcutaneous nodules on the legs Salicylate of soda cures Quinin is useless In tuberculosis, fever is first intermittent, then remittent and finally intermittent, chill at midday, flushing of face, loss of flesh In syphilitic fever, daily pain, daily fever, often high, but no corresponding increase of pulse, previous history

At the meeting held December 14, the president, Dr Samuel C Busey read his annual address entitled "The History and Progress of Sanitation of the City of Washington and the Efforts of the Medical Profession in Relation Thereto" Dr Busey described the original city as laid out, and referred to its hygienic and anti hygienic features, the different water courses and streams, swamps and lowlands, he referred to the gradual growth of the city and the different acts of Congress regulating its government, the introduction of Potomac water in 1859, the beginning of sewer construction in 1810, and described its evolution He gave an interesting account of the first organized effort of sanitation, which occurred in 1819, in the appointment of a health officer, whose duty it was to report nuisances to the mayor, culminating in the present health laws of the District as aided and modified by the efforts of the Medical Society He also referred to the evolution and growth of the city hospital system, and closed his remarks by showing the effect of sanitation in lessening the prevalence of contagious diseases and its influence particularly in lessening a number of cases of typhoid fever in the District

NECROLOGY

Samuel Decker, M D, College of Physicians and Surgeons, York, 1867, of Griffin Corners, N Y, died December 6, 59 years

Edwards Hall, M D, Albany, N Y, 1844, died December 10, at his home in New York, where he was long and favorably known as a faithful family physician

Albin J Fulda, M D, of New York, who had been in poor health for several years, died there December 9 He served during the Civil War as surgeon of the Forty fifth New York Volunteer Infantry

Solomon P Cahen, M D, New York City, died of pneumonia, December 6 Born in Germany in 1895, he came to New York in 1860, returning to Germany in 1864, where he later was graduated in medicine from the University of Leipsic

George W Baker, M D, Brooklyn, N Y,, died December 5 He was born in 1837, received the degree of M D from the College of Physicians and Surgeons, New York City During the Civil War he enlisted in the medical corps, and was soon assigned to a hospital in Washington, where he served for three years

L Chapman Smith, M D, New York University, 1878, died at his home in Brooklyn, N Y, December 9 After receiving his dental diploma he began the study of medicine and after his graduation, took up the study of pharmacy He was 45 years old and a member of the Kings County Medical Society A wife and two daughters survive him

Gouverneur Mather Smith, M D, College of Physicians and Surgeons, New York, 1855, died in that city December 8 He was a son of the late Prof Joseph Mather Smith of the above college and inherited his literary as well as humanitarian impulses His name was well known in hospital work and benevolent institutions He was unmarried

Henry Campbell Doughty, M D, Augusta, Ga, died at his home December 1, of consumption He was demonstrator of anatomy in the Medical College of Georgia, and in addition to his work in surgery gave a great deal of attention to chemistry and bacteriology He was but 26 years old

Nathan Sherwood King, M D, of Yonkers, N Y, died at his home, December 11, of pneumonia He was born in 1824 at Fishkill, and was graduated from Williams College in 1849 and from the College of Physicians and Surgeons three years later He leaves a wife and one married daughter

Joseph W Marsee, M D, Indianapolis, Ind, Dean of the Indiana Medical College, died December 3, after an illness of two days, aged 50 years His connection with the Indiana Medical College began twenty three years ago, when he became demonstrator of anatomy, later succeeding to one of the chairs of surgery, and six years ago to the office of Dean

J G Cunningham, M D, Kittanning, Pa, died December 12 He was a member of the County, State and American Medical Association, and of the G A R and Masonic bodies, and a graduate of Jefferson, class of 1867

A C Morris Cheston, M D, West River, Md December 1 C M Deitrich, M D, Galesburg, Mo, December 8 Daniel Dupree M D, Dallas, Texas, November 25, aged 77 years Thomas D Wright, M D, Preston, N Y, aged 81 years E B Fleece, M D, Wildwood, Fla, November 30 Hosea A Hamilton, M D, Oneonta, N Y, December 6 aged 76 years J B Hanaford, M D, Apponaug, R I, December 6, aged 59 years George Z Higgins, M D, Strong, Maine, December 11, aged 66 years J W Hill, M D, Knoxville, Tenn, December 4 Francis Johnson, M D, Pawtucket, R I, November 27, aged 65 years J L Jones, M D, New Middletown, Tenn, December 4 L L Metzger, M D, Brooklyn, N Y, December 4, aged 35 years S R Millington, M D, Poland, N Y, November 28, aged 72 years Henry Ostrom, M D, Alton, N Y, December 8, aged 73 years John Pair, M D, Buel, N Y, December 7 Martin Payne, M D, Portland, Ore, December 2, aged 62 years Albert J Philips, M D, Baltimore, Md, November 24, aged 44 years D T Porter, M D, Memphis, Tenn, December 2, aged 72 years Leander Seaton, M D, Stauffer, Pa, December 11, aged 40 years John I Sherwood, M D, Covington, Tenn, December 2, aged 66 years Norman T Shobe, M D, Indianapolis, Ind, December 1, aged 22 years William S Stevens, M D, Augusta, Ga, November 29 E M Stillman, M D, Andover, N Y, December 6, aged 57 years F E Strong, M D, Lancaster, Wis, December 13, aged 40 years S C Warner, M D, Ceres, Va, December 5 J A W Wegeforth, M D, El Paso, Texas, December 9, aged 35 years

DEATHS ABROAD

Sir William Jenner, the distinguished pathologist and physician in ordinary to the Queen and the Prince of Wales, died December 12 He was born in 1815 and was educated at University College, London, in which institution he became professor of pathologic anatomy in 1848 He was president of the Royal College of Physicians from 1881 to 1889 when he retired from the practice of his profession He was the first person to establish, beyond dispute, the difference between typhus and typhoid fevers He was appointed physician extra ordinary to the Queen on the death of Dr Baly, in 1861, and the next year was gazetted physician in ordinary to Her Majesty, receiving the same preferment in 1863 in the household of the Prince of Wales He attended the Prince Consort during his last illness It was in recognition of his services during the severe illness of the Prince in 1871 that he was made Knight Commander of the Bath He was created a baronet in 1868 He wrote numerous papers on fever, the acute specific diseases, diphtheria, diseases of children and diseases of the heart, lungs and skin Among his published books are a treatise on diphtheria, and "The Identity or Non Identity of Typhus or Typhoid Fevers"

H A Pilliet, M D, Paris, aged 37 years Seldom has so brief a career seen such an amount of scientific work accomplished His constant co operation on the staff of the *Progrès Médicale* and of the *Tribune Médicale*, and as professor in the training schools for nurses, did not interfere with his abstract scientific labors, studies of the liver in infective diseases, toxic gastritis, muscles of the bladder and uterus, etc He prepared for any work of this kind on an organ by an exhaustive study of the normal organ in man and animals, before turning to the pathologic conditions

MISCELLANY

Betain Hydrochlorate vs Tetanic Toxin—Roger and Josue announce that one centigram of betain hydrochlorate will neutralize, completely, one drop of tetanus toxin in experiments on guinea pigs, and merely diminish the effects of two drops of toxin, thus establishing the limits of its neutralizing action —*Semaine Méd*, November 30

Protracted Grippe—Tilaloff has observed several cases of grippe lasting several months In three cases there was continuous slight fever for five months, and in two, intermittent relapses, transient, but occurring at intervals for several years Change of climate is required for this chronic grippe —*Presse Méd*, November 26

Edema of the Larynx—The *Rev Hebd de Laryng* for November 19 describes two cases of edema of the larynx, probably of angioneurotic origin, one due to the menopause, treated with leeches, sodium salicylate and sodium iodid, gradually diminishing during several months, till final recovery The other commenced abruptly in a young man after a simple stroll on the seashore so violently that intubation was required at once The patient was out of danger the same evening

Ascending Neuritis—Marinesco concludes a histologic study of this rare affection with the statement that the most frequent if not the only cause is a local affection If there is much tendency to spread, the agents of the infection pass by means of the lymphatic spaces in the nerve to the spinal cord, that is, a spinal cord phase supplements the neuritic phase The destruction of a certain number of nerve fibers by the microbe and its toxins may affect the center even before the toxic substance has reached the spinal cord If, on the other hand, the poison is very diffusible, the central lesions are marked before there are manifest lesions in the nerves, as happens with nicotin injected into a peripheral nerve —*Presse Méd*, November 23

The Pancreas in Diabetes—Lancereaux asserts that a certain form of diabetes, *diabète maigre*, is necessarily connected with every profound alteration of the gland, and that the other forms of diabetes may be due to a material disorder or merely a functional disturbance in the innervation Glycosuric diabetes is therefore no longer a distinct disease, but, similarly to albuminuria in relation to the kidneys, is a syndrome subordinate to a material disturbance of the pancreas or to mere disturbance of the innervation —*Bull de l'Acad de Méd*, November 15

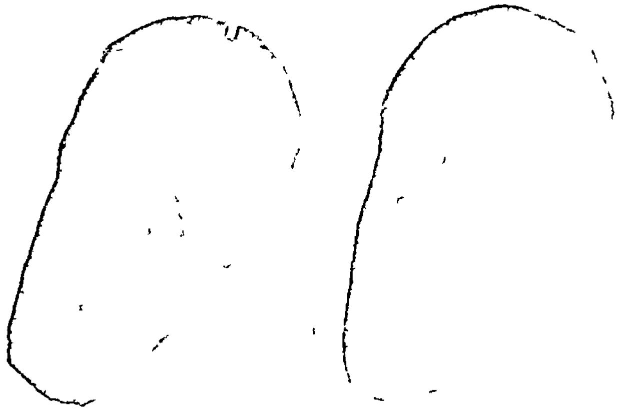
Osteomalacia—F Schnell has observed thirty two cases at Wurzburg one recovered spontaneously, sixteen received medical treatment alone and eleven surgical after the former had failed He classifies them as progressive and tardy The progressive form appears early and has no remissions The tardy form was observed in multiparæ, with exacerbations during pregnancy and remissions in the intervals Phosphorus and cod liver oil proved the most effective medical treatment, diminishing the pain Castration proved successful, not only at first, but in its permanent results The ovaries in the fourteen cases examined were degenerated in proportion to the severity of the affection, the stroma transformed into fibrillary connective tissue, with a tendency to hyalin degeneration of the vascular apparatus

Carrion's Disease—The October numbers of the *Crónica Médica* of Lima are devoted each year to a discussion of this disease, better known as Peruvian verruga and Oroya fever, and to a eulogy of the devoted young doctor, D A Carrion, who was making a comprehensive study of these supposedly separate endemic diseases, and become convinced of their identity To demonstrate it he inoculated himself with blood from a patient with verruga at the Hospital 2 de Mayo and died in a couple of months from the effects, with a typic case of Oroya fever (1885) His description of the particulars of the disease as it attacked him is one of the most exact and comprehensive studies of any disease extant.

Experimental Tuberculosis—Richet states that dogs inoculated with pure cultures of the Koch bacillus were exposed to the vapors of turpentine for an hour every week during six months and the development of the infection was definitely arrested, while the control animals all died —*Presse Méd*, November 28

Myositis Ossificans Progressiva—Stempel has been studying, for three and a half years, a typic case commencing at four years of age He concludes from his numerous microscopic investigations that the process is not due to the muscles or bones, but proceeds from the connective tissue, originating in some disturbance of the tissues in the embryonal period, producing defective differentiation of the original gelatinous tissue —representing the mesenchyma—which would develop normally into connective tissue on one hand and into bone and joint tissue on the other If this normal differentiating process is disturbed, the places normally occupied by connective tissue are filled with bone and joint tissue The coexistence of the other disturbances in development, absence of the terminal phalanges, etc, which generally accompany this affection are also explained by this theory —*Cbl f Chir*, November 19

Intestinal Obstructions—In a previous number of the JOURNAL (p 966) in an article on "Intestinal Obstructions from Gall stones, with Report of a Case," by J P Lord, M D, Omaha, Neb, an illustration which belonged to a paper appearing later in the JOURNAL was erroneously inserted, in place of the following



Photographs actual size of gallstones in half section, case of Jere Cooper, operated March 14 1898 by Dr Lord

Photograph actual size of gallstone removed from lower ilium of Jere Cooper, by Dr Lord March 14 1898

Abdominal Fixation of the Uterus—Henricius reports sixty cases operated on—15 retroflexion or retroversion, 39 prolapsus, or other causes Three have borne healthy children at term (two operated for prolapsus and one for retroversion) In forty eight cases, recovery was smooth, in 5 there was a fistula or hernia or both, in one, sepsis from the tube removed in one case necrosis of the part, the abdominal wall probably too tightly compressed In one case there was a slight phlebitis of the leg and in another an emphysema in the abdominal wall

He has collected 122 cases in literature in which abortion followed in 14, premature natural delivery in 3, premature artificial delivery in 1 In 104 cases of delivery at term, there was breech presentation 6 times, shoulder 6, asynclitism of the head, 1, spontaneous delivery in 66 out of the 104, eclampsia in 2 —*Nordiskt Med Arkiv*, xxxi, 5

Rupture of the Umbilic Cord —Tissier reported, at a recent meeting of the Paris Medicolegal Society, a case of delivery in a standing posture in which the weight of the child, 2670 grams, broke the cord horizontally across, the divided surfaces as smooth as if they had been cut with scissors Other cases were related in which the weight of the child had caused the usual oblique rupture, and Charpentier mentioned a case in which a very heavy fetus was accidentally picked up by the cord and suspended a few moments without rupturing it

Vitality of Severed Human Flaps —Wentscher asserts that Reverdin's flaps can be kept three weeks without loss of vitality in a 6 to 10 per cent salt solution, or dry in cotton, and then be successfully transplanted A brief freezing does not injure them, but they are very sensitive to warmth, long application of disinfectants and much desiccation The tissue should not be too dry to easily imbibe the protoplasma stream after transplantation

Surgical Intervention on the Insane —Picque of Paris, proposes to increase the discretionary powers of the curator or administrative committee in respect to operations deemed indispensable by the physicians of the asylum that has the insane patient in charge, adding to the present regulations "The administrator may, in case of conflict with the family, order the application of treatments considered indispensable "—*Presse Méd*, November 26

Fundus Oculi Lesions Correction —In the report of the paper of Walter Hilliard, M D, (vide JOURNAL, December 10, p 1421), in the sentence "Another feature of importance is the capillary network of the retina, which is the finest and closest in the body," the choroid is meant and not the retina

Quinin in Malarial Fever —Dr Robert Koch having had the temerity to declare that the "black water fever" of South Africa is really "quinin poisoning," has most effectually injured the reputation of quinin, at least in the minds of the laity in South African territory, and has thereby occasioned a heated discussion in British medical journals and societies Dr Koch's opinion is not accepted by the English physicians who are resident in South Africa, and they vehemently protest that it is superficial and fallacious, arguing with liberal references to long experiences, which show that black water fever patients recover quickly if treated promptly with heroic doses of quinin—that, in the words of Dr R U Moffat of Uganda *British Med Jour*, Sept. 24, 1898), "*there is only one treatment for malaria* quinin, more quinin, and yet more quinin " —*Am Therapist*, November

Tachypodia or "Hot Foot"—The late Dr Péan of Paris was once called in the capacity of a physician to attend a duel One of the adversaries was so cowardly that he ran away after the first shot, unhurt The four seconds, the remaining combatant, and the Doctor stood looking at each other with embarrassment and discomfiture, when Dr Pean broke the silence by saying gravely, "I know the disease that has suddenly attacked this gentleman," and taking out his pencil and paper, he drew up a report as follows "At the first shot, Mr X was taken with a sudden attack of tachypodia that would not not yield to treatment The seconds, therefore, on consultation with the physician, stopped the duel "—*Medical News*, December 3

The Pathologic in Goethe —W A Freund contributes an article to the *Munich Med Woch* of November 29 that will create a sensation among the admirers of Goethe, as he states that the fact of the early death of his children and the degeneracy of those that survived, studied in connection with his own illness at one time, which after the most unfavorable prognosis, terminated unexpectedly in recovery in the course of a year, indicate a specific disease cured with specific treatment The lesions mentioned in his letters, his reference to "Don Sassafras," and his later relapses support this view, which Freund claims explains much of the medical, chemic and philosophic tendency of his writings

The "Pugwash Plant" of the Indian Doctor —The man who has worked the country long and successfully as an Indian doctor gives directions for the pursuit of this noble calling Buy up a job lot of senna and make it into senna tea, with a few other "yarbs" Bottle it and take it out on the road with a wagon Name it "Yokotami, the Great Blood Purifier of the Pugwash Indians" Men will throng to the wagon to get it, and, going to the edge of the crowd, will take a furtive swig to see how much better they feel They usually think they do, and after their bowels have moved the next morning they know they do —*Popular Science News*, November

Temperature on Determination of Sex —Molliard stated, at the Paris Academie des Sciences, October 31, that a higher temperature favors the production of females (Dusing), and Schlecter arrives at the same conclusions in regard to horses Von Siebold has shown that eggs of the nematus ventricosus produced more females as they were kept at a higher temperature, and Molliard confirms this fact in regard to the mercurialis Knight, on the other hand, has noted that the watermelon raised in a hotbed, has only male flowers —*Presse Méd*, November 9

Bequests —The late David Leahy of Brooklyn left certain large sums to charitable institutions, of which the St Mary's General Hospital of Brooklyn receives $10 000, the St Mary's Maternity, $7,500, and the Home for Consumptives of Brooklyn, $5,000 Several homes for children, and other institutions, together with those named above, are to receive $100,000, in addition to which a residuary interest in over $200 000 is left to those charitable institutions and to the Catholic University and Yale College

Dr Jacobi Honored —An anonymous donor has presented $50,000 for the endowment of a ward for children at the Roosevelt Hospital, New York, the ward to be used for the purposes of the clinical instruction of the students of the College of Physicians and Surgeons, and to be known as the Abram Jacobi ward for children The trustees of Columbia are to have the right to nominate the persons giving instruction in this ward, and that appointment has been conferred upon Dr Abram Jacobi, Professor of Children's Diseases One of the conditions of the gift was that the donor's name should not be made public Only the students in their final year will be taught in the ward, which will be open to all children, except those having contagious diseases

For Cuba Libre —Dr John Guiteras, Professor of Pathology in the University of Pennsylvania, will resign at the close of the present year to accept the chair of the Practice of Medicine at the University of Havana Dr Guiteras has been greatly interested in the liberation of Cuba and wishes to build up the medical courses in the University of Havana

An Army Medical Examining Board —The Army Medical Examining Board, which was convened in Washington, D C, October 10, last, has concluded its present labors by filling all existing vacancies in the corps The Board consisted of Col Dallas Bach, assistant surgeon general, Major Louis A Le Garde, surgeon, and Captains G E Bushnell, G D De Shon aud E L Munson, assistant surgeons, United States Army One hundred and seven candidates were invited to appear, but thirty three failed to avail themselves of the oppor tunity, twenty nine were rejected on account of defective physique and twenty were passed as satisfactory in every respect Among the successful candidates were Dr Church who, as assistant surgeon of the Rough Riders distinguished himself in the fight at Las Guasimas, June 25, 1898, and Dr Ford, the assistant surgeon of an immune regiment, who came all the way from Manzanillo, Cuba, to have his qualifications tested The Board has adjourned subject to the call of its president It has not been dissolved, and may have considerable work before it if Congress passes a bill for the reorganization and increase of the army

Accident to Hospital Ship—The *Bay State*, a hospital ship belonging to the U S Army, was the scene of an explosion of an ice making machine at Brooklyn on December 6 The expert engineer in charge of the machine lost his life, and twelve members of the hospital corps of the vessel were injured or temporarily in danger of asphyxiation The injured men were treated successfully on board of the *Relief*, which chanced to be lying at an adjacent wharf The *Bay State* was only slightly injured She was formerly the property of the State of Massachusetts At the close of the hostilities with Spain, she had been purchased by the Federal authorities and assigned to Chief Surgeon R M O'Reilly, whose future post of duty will be at Havana and in Cuban waters, referred to in another item

Appointment as Contract Surgeon in the U S A—The following requirements are exacted by the Board of Examiners Evidence of graduation at a regular reputable medical college—diploma to be submitted to the Board Proof of hospital or other professional experience will be of benefit to the candidate Candidates must be in good health, of reasonably sound physique, and citizens of the United States The examination is of a practical nature, embracing hygiene, practice of medicine, pathology and surgery In addition, a thesis on some professional topic will be prepared by the candidate The following questions submitted to former candidates are published as a guide to applicants 1 What chemic and physical qualities of water would lead you to suspect its potability? 2 What are the varieties and pathology of felon? 3 What is Widal's test? 4 What are the modern methods of treating diphtheria? The pay of acting assistant surgeons is $150 monthly The applicant must be free from physical defects which would incapacitate him from the military service For further information address Major H S Kilbourne, Surgeon, U S A, Army Building, 39 Whitehall Street, New York City, President of Board of Examiners

To Profit by British Experience—Lieut Col R M O'Reilly, chief surgeon, Havana, Cuba, has recently been ordered to proceed to Jamaica, with the view of gathering information concerning military sanitary methods in that island, which may be of use to us in our occupation of Cuba Surgeon General Sternberg gave him the following special instructions

In compliance with instructions contained in a letter from the Adjutant General of the Army, dated Dec 2, 1898, you are expected to make a careful inquiry with reference to the methods now in use in the island of Jamaica for protecting soldiers of the British Army stationed upon that island, from fatal infectious diseases and from the deleterious effects of climatic influences You should ascertain, as far as practicable, the results obtained by improved methods which have been adopted as the result of experience, and full details as regards the housing, clothing and feeding of British soldiers in semitropical and tropical climates, also the methods found most satisfactory for the disposal of excreta and for the protection of troops from infectious diseases, and especially yellow fever, dysentery, camp diarrhea and the malarial fevers The measures of prophylaxis adopted, and the results of such measures should be fully investigated Especial attention should be given to the question of rations and clothing which have been found suitable for the climate of Jamaica also as to the construction of barracks found by experience to be most suitable and conducive to the health of the soldiers in garrison also to everything pertaining to camp equipment and the sanitation of camps as practiced and as required by army regulations and orders You are expected to make to the Adjutant General of the Army a full report upon these subjects

Protection from Insects—A memorandum from the office of the Surgeon General of the Army, issued as far back as June 13, 1890, does not appear to have attracted the attention of medical journalists We present it here as being of interest to others than those to whom it was first addressed

The attention of medical officers of the regular and volunteer armies is invited to the following extracts from a letter addressed to the Surgeon General by Prof Stanford E Chaillé of the Medical Department, Tulane University of Louisiana New Orleans "Instructions appear to have been issued to our soldiers for the preservation of health in the tropics and I believe it well worth your consideration whether it would not be well to have disseminated among them information calculated to alleviate greatly their sufferings from mosquitoes, fleas and other insects, sufferings which often deprive soldiers of the sleep and rest which, with food are the primary requisites for their efficiency During the Civil War many soldiers blessed me for the following information Mosquitoes, fleas, bedbugs and, I believe, insects generally detest and will avoid the essential oils and the plants which, with or without bruising, are strongly impregnated with their odor In New Orleans, oil of lavender is used by many for relief from mosquitoes, a drop or two smeared on a hand or on any naked surface will protect until it dries up, say half an hour While a Confederate surgeon I was in a town infected with fleas, and secured great relief by using freely in my boots and clothing and about my bed the bruised pennyroyal which grew abundantly within the town Smearing exposed parts with grease will protect from mosquitoes until the grease disappears A small piece, say one or two inches square of fat middling or bacon to smear on exposed parts is more efficient than essential oils, because the grease does not dry up as soon, and would probably protect during the usual hours of sleep if used at the beginning and repeated once during the night's rest"

Bills to Reorganize the Army—Three bills "for the Reorganization of the Army of the United States and for other purposes" have been introduced into Congress Each has been read twice and referred to the committee on military affairs The following are the sections of each which relate to the medical department It seems likely that the provisions in Senate Bill 4900 for so many assistant surgeons general with the rank of major, captain, etc, are merely the result of clerical errors in copying the bill

SENATE BILL 4900, introduced by Mr Hawley

SEC 15 That the Medical Department of the Army shall hereafter consist of 1 surgeon general, with the rank of brigadier general, 20 assistant surgeons general, with the rank of colonel, 30 assistant surgeons general, with the rank of lieutenant-colonel, 175 assistant surgeons general with the rank of major, and 120 assistant surgeons general with the rank of captain, mounted, and 250 assistant surgeons general with the rank of lieutenant, mounted The enlisted force of the medical corps shall consist of 250 hospital stewards, 250 acting hospital stewards and 2000 privates

SENATE BILL *4938, also introduced by Mr Hawley*

SEC 11 That the Medical Department shall consist of 1 surgeon general, with the rank of brigadier general, 20 surgeons with the rank of colonel, 30 surgeons with the rank of lieutenant colonel, 100 surgeons with the rank of major, 150 assistant-surgeons, with the rank of first lieutenant and a hospital corps consisting of 250 hospital sergeants who shall have the pay and allowances of hospital stewards 100 pharmacists, with the compensation of $10 per month and the allowances of acting hospital stewards 500 hospital corporals with the pay and allowances of acting hospital stewards and 3200 privates *Provided*, That all vacancies in the grades of colonel, lieutenant colonel and major created or caused by this section shall as far as practicable and subject to the prescribed examination, be filled by promotion according to seniority, as now provided by law *Provided also* That assistant surgeons shall have the rank of first lieutenant for the first five years service and that of captain after five years service, subject to the examination now provided by law *And provided further* That the period during which any assistant surgeon shall have served as a medical officer of the volunteer army during the war with Spain shall be counted as a portion of the five years' service required to entitle him to the rank of captain

Acting assistant surgeons may be appointed by the surgeon general, with the sanction of the Secretary of War, and under such regulations as may be prescribed by him, for temporary service, whenever imperatively necessary, at a compensation not to exceed $150 per month *Provided*, That no one shall be so appointed until he shall have passed a satisfactory professional examination

House Bill 11022, introduced by Mr Hull

Sec 11 That the Medical Department shall consist of 1 surgeon general, with the rank of brigadier general, 10 surgeons, with the rank of colonel, 20 surgeons, with the rank of lieutenant colonel, 110 surgeons, with the rank of major, 360 assistant surgeons with the rank of captain or first lieutenant, and a hospital corps consisting of 250 hospital sergeants, who shall have the pay and allowances of hospital stewards, 100 pharmacists, with a compensation of $40 per month and the allowances of acting hospital stewards, 400 hospital corporals, with the pay and allowances of acting hospital stewards, and 3000 privates *Provided*, That all vacancies in the grades of colonel, lieutenant colonel and major, created or caused by this section, shall, as far as practicable, and subject to the prescribed examination, be filled by promotion, according to seniority, as now provided by law *Provided also*, That assistant surgeons shall have the rank of first lieutenant for the first five years' service, and that of captain after five years' service, subject to the examination now required by law *And provided further*, That the period during which any assistant surgeon shall have served as a medical officer of the volunteer army during the war with Spain shall be counted as a portion of the five years' service required to entitle him to the rank of captain *Provided further*, That all vacancies in grade of assistant surgeons shall be filled by competitive examinations, as now provided by law

Acting assistant surgeons may be appointed by the Surgeon General, with the sanction of the Secretary of War, and under such regulations as may be prescribed by him, for temporary service whenever imperatively necessary, at a compensation not to exceed $150 per month *Provided*, That no one shall be so appointed until he shall have passed a satisfactory professional examination

Medical Registration in Connecticut—The regular examining committee of the Connecticut Medical Society has held eight special examinations during the year 1898, the last one on November 8 Seventy five applicants were examined, five of whom were for midwifery only and seventy for general practice Of the seventy general practitioners, thirty nine were found qualified and twenty one not qualified, while six were conditioned Of the latter, three were afterward examined and found qualified The results of the last examination have not been reported to the State Board One of the rejected midwives was also re examined and passed This committee and the two other official examining committees have held a conference and decided to apply to the State Board of Health to appoint the time and place for examinations only once in four months, i e, in March, July and November, that all examinations shall be written in English, and that at least 75 per cent of answers must be correct to enable a candidate to pass, but that "conditions" may be allowed, if there are not more than two branches under a marking of seventy five, and the markings not less than fifty, with re examination at the expiration of four months —*Medical News*, December 3

Hospitals.

By the will of Josiah B Thomas of Peabody, Mass, $50,000 is left for the founding of a hospital in Peabody —The new St Luke's Hospital, Bayonne, N J, was formally opened for patients December 3 —The Presbyterian Hospital, Chicago, has received $50,000 as a Christmas gift, from Mrs Averell of Chicago, to endow a free ward of ten beds for men, to be known as the Albert J Averell Memorial Ward

Cincinnati

Health Report —The Health Department reports an average of nine cases of chickenpox per day The cases of smallpox at the branch are all doing well

Personal —Dr Lawrence Shields, who has held the position of resident physician at the Cincinnati Hospital for the last two years, has accepted the post of associate to Dr Parsons of Mexico City.

Washington

Report of Health Officer —The report of Health Officer Woodward for the week ended December 10 shows the total number of deaths to have been 1119, 73 white and 46 colored The principal causes of death were apoplexy, bronchitis, consumption, diphtheria, nervous, circulatory, genito urinary, pneumonia, malignant growths and typhoid fever The total number of births was 127, 77 white and 50 colored At the close of the week there were 122 cases of diphtheria and 129 cases of scarlet fever under treatment

Emergency Hospital Nurses' Home —The new home for the nurses of Emergency Hospital, the gift of Mrs Phebe Hurst, was formally opened, December 7 The hospital superintendent, Miss Simonton, received several hundred callers, all interested in hospital work The home is located opposite the hospital, has the ambulance stable adjacent, and is connected with the hospital by electric signal A large number of rooms in the hospital, formerly occupied by the nurses, will now be vacated, and the space used for the accommodation of patients

Columbian Graduates in the Army —At the recent competitive examination for Army surgeonships, none of the graduates of the Columbian Medical College failed The list included Drs James R Church, surgeon of the Rough Riders, J H Ford and Dr Wolf The best examination was passed by J H Ford, member of the class of '97

Hospital for Foundlings —At the 12th annual meeting of the Board of Directors of the Washington Hospital for Foundlings, recently held, Dr Z T Sowers was elected president The following staff was also elected Drs Z T Sowers, chief of staff, D K Shute ophthalmologist, C W Richardson, laryngologist and M F Cuthbert, R W Baker, Samuel S Adams and J R Wellington

London

Harveian Lecture —The first Harveian Lecture was delivered this week by Dr Wm Ewart at St George's Hospital and College The series of three is to cover "Disease and its Treatment and the Profession of Medicine in 1899" The first lecture dealt with the present aspects of disease, and after a rapid sketch of the disappearance of many diseases and the diminution of others, the immense advances in our means of recognizing and treating them, etc, Dr Ewart settled down to a broad and philosophic consideration of the interesting questions "Can Disease Entirely Disappear?" "Will Such Approach to Disappearance as may be Expected Seriously Limit Our Usefulness and Field as a Profession?" The first of these questions he quickly answered in the negative, pointing out, as Clifford Allbutt pithily remarked some years ago, "Die we must, somehow," and every life saved from infections and diseases of malnutrition simply meant an adult to die later on of, say arterio sclerosis or of cancer It was theoretically possible for death by old age to be a purely natural, even physiologic, process, but practically it was extremely rare that all men "went to pieces all at once," like our beloved Holmes' immortal "One hoss Shay" Some "weaker place can't stand the strain," gives way, and death occurs by what we term "disease" As to the effect of the diminution of disease upon the profession, he held that while it had perhaps temporarily diminished the amount of employment for us in certain directions, yet upon the whole it had distinctly widened our field so far Our standards of health were much higher, there was a keen desire to avoid risk of disease, a determination to have even discomfort alleviated, on the part of the community, which was bringing thousands of patients whom formerly we would never have seen As he summed it up, "Disease had diminished, treatment increased" He cited American experience as bearing out this position and expressed the hope that the day would come when England would attain as high a standard of thoughtfulness and foresight in the removal of all possible conditions of disease and calling skilled attention to the very earliest symptoms 'as obtain in Transatlantic Britain" He also referred to the wide field opening up to the profession in the supervision of education, and, in fact, took a strikingly similar position to that assumed editorially by the Journal a few weeks ago

Molluscum Contagiosum, Cancer, etc —At Mr Jonathan Hutchinson's clinical demonstration last week a case of molluscum contagiosum was presented with the history that a generalized outbreak of the eruption had developed some three weeks after the patient had taken a Turkish bath. Upon which the lecturer remarked that, in his experience, nearly every case of widespread molluscum contagiosum in an adult, had developed very shortly after taking a Turkish bath, and that he believed the disease to be often due to the use of infected "public" towels, vigorously applied to a softened and heated skin It would be interesting to notice whether such a connection could be traced upon the other side of the Atlantic It was also stated, in commenting upon a case of cancer, that in the lecturer's opinion the children of parents who married late in life were more liable to cancer than those of young parents This was one of the factors in the increasing prevalence of cancer, as marriages occur usually at a much later age than formerly The other and weightier factor was that cancer being a disease of adult or late middle life, and a larger proportion of children surviving to attain this age, the proportion of those in the community liable to its attack was markedly increasing Mr Hutchinson said that he had been much interested of late in the question of disease liability of the children of old parents, and asked for information from his hearers as to the truth of the statement that grafts taken from an old apple tree and inserted in a young root stock would live only as long as the parent tree Gardeners had assured him that it was an accepted rule among them that when the old tree died the grafts were sure to follow very shortly If this be true it would appear that every part, even of a composite community like a tree, had a more or less definite and limited life expectation determined by that of the whole Does this apply to our own tissues, including our generative cells, and has a race a life period like an individual?

Lord Lister in his presidential address at the late annual meeting of the Royal Society, dwelt chiefly upon the late triumphs of preventive medicine and announced that Dr Turner had discovered a method of protection against the terrible African rinderpest, by inoculation of serums along the line suggested by Koch and that 700 000 cattle had already been saved by it and there was hope of entirely eradicating it

Philadelphia

Dr and Mrs S Weir Mitchell have sailed for Egypt, where they will spend several months

Dr William Pepper, Jr , who has recently recovered from a severe attack of typhoid fever sailed last Saturday for the south of Europe and will cruise in the Mediterranean for several weeks

Quarantine Against Rabid Dogs —Dr J C McNeal, of the Department of Public Safety of this State, has reported to State Veterinarian Leonard Pearson of this city that a large number of rabid dogs exist in the Sewickley Valley At a recent meeting of the Live Stock Sanitary Board, called by Governor Hastings, at the request of Dr Pearson, action was taken and all dogs in the Sewickley Valley were quarantined

Gift Contested —The will of Sarah Donnell, who recently bequeathed the bulk of an estate valued at $10,000 to various charitable institutions, including the Episcopal Hospital, is being contested by her sister, who recently filed a caveat with the Register of Wills The ground on which the contest will be brought has not become public

Visit to Southern Army Camps —Dr M S French, secretary of the National Relief Commission, left last week on a visit to the different army camps throughout the South On his return trip Dr French will visit the different hospitals along the Atlantic seaboard, including Savannah and Fort Monroe

La Grippe Prevailing —Early in the week a few scattered cases of grippe made their way to the hospitals Later the school children became affected, and now it seems scattered abroad throughout the city

Diagnosis Sustained —It will be remembered that last week Dr W B Atkinson of the State Board of Health was sent to investigate the suspicious cases of skin disease epidemic throughout the town of Bradford, Pa , and the surrounding country Dr Atkinson is reported as finding a number of cases with symptoms so manifest that he at once reported them as smallpox This diagnosis seemed to startle a good many of the practitioners in Bradford, and they had no hesitancy in stating that the diagnosis was incorrect A public meeting was called and rousing resolutions adopted setting forth the opinion that smallpox was not epidemic in the locality However, smallpox has continued to spread throughout the city, and on December 11 twenty cases were reported Dr Benjamin Lee, secretary of the State Board of Health, also visited the place and concurred in the diagnosis as expressed by Dr Atkinson

Medico Chirurgical College.—Plans are now under consideration for the erection of a laboratory for this medical college which, when completed, will cost several hundred thousand dollars A plat of ground adjoining the property and extending along Cherry and Seventeenth Streets has been purchased At the meeting of the trustees, to be held in January, it is rumored that the matter will be formally discussed, as up to the present time nothing has been decided as to the style of the proposed building

Legislation for Pure Food —Delegates from this city have been appointed to the Pure Food and Drug Congress which meets in Washington on January 18 The special duty of this Committee is to urge upon Congress ths importance of the Brosius bill now before that body, which provides against adulteration of food and drugs Secretary Smedley is quoted as saying that the various exhibitions at the food show recently held here prove the ingenuity of the adulterants in counterfeiting both the flavor and appearance of food products to an alarming degree For instance strawberry jelly is made of glucose, gelatin, anilin dye and artificial flour cayenne pepper is mostly gypsum , black pepper is largely gypsum and ground cocoanut shells , mustard is principally wheat flour, cayenne pepper colored with a poisonous drug known as Martin's yellow

A Healer Without Drugs —Mr Carol Morton of New York recently gave an address in this city on "Christian Science," and is reported as saying that Christian science is in thorough harmony with the spiritual significance of the Bible In fact, the Bible is the text book mostly used Christian scientists accept Christianity according to Christ instead of Christianity according to the dogmas of men God, the Supreme Being, is certainly synonymous with nature Health of body like holiness or wholeness of character, is the normal condition of the image of God, man and woman Jesus healed the sick and reformed the sinner by the same method He did not use drugs or material methods He operated through mental or psychic laws Christian science has nothing to do with faith cure, spiritualism, theosophy nor hypnotism, but it can not agree that the practice of medicine is a science

Students and the Municipal Hospital —At the meeting of the city council last week, Dr Walk, a member of that body, who offered the resolution providing that students of the different medical colleges be permitted to visit, for instruction, the patients suffering from diphtheria and smallpox at the Municipal Hospital, has not pressed the resolution as if he thought it would prevail In fact, so much opposition has been created and ill feeling engendered on account of this resolution, that instead of being its advocate at the last meeting of the council, Dr Walk was absent, and it was given out that he will not press the measure any further

For New Laboratories —The committee appointed for the purpose of soliciting subscriptions for the new laboratories at the University, to cost $300,000, report that they have received much encouragement in the work The plan is to enlist the 6000 medical alumni and thus form centers of local associations under one general alumni association and thus unite all the graduates in medicine This is the first general call for contributions from the medical alumni for improvements at the University, and much is hoped from this plan Provost Harrison has stated that these new physiologic chemic and pathologic laboratories would be the next building erected during the coming year and that he would guarantee that one half the expense of the building would be $150 000

Physician Resigns —Dr John M Foust, who has been for the past few years physician to Girard College, has resigned his position and will engage in private practice The position pays a salary of $900 a year, and places a suite of rooms inside and a servant at the disposal of the occupant No successor has yet been chosen

Appeal to Board of Health —Residents of a certain district of Germantown this city, have made a formal protest against the condition of a neighborhood of Pulaski Avenue Morris Street and Chelten Avenue which is being circulated among the [illegible] of [illegible] ality to [illegible] ently turned over to t [illegible] is st [illegible] the past few mon [illegible] ha [illegible] many [illegible] d [illegible] have occurred The locality is believed to be in an unsanitary condition, from the fact that large pools of water are said to form in the gutters, and that at the present time microbes abound

MICROSCOPE OF FIFTY YEARS AGO —Dr J Cheston Morris recently gave a lecture on "The Development of the Microscope," before the microscopic section of the Academy of National Sciences He said that in 1850 there were upright microscopes of German and French make, and that one of the greatest improvements was the Ross stand, which enabled a person to examine an object at any angle Achromatic lenses were made afterward, and many of the latest improvements were due to American opticians and mechanics

MORTALITY STATISTICS —For the week ending at noon, December 17, there had been 481 deaths, an increase of 45 over last week, and 30 over the corresponding period of last year In children under the age of five years, 118 occurred

FREE HOSPITALS FOR POOR CONSUMPTIVES —The proceeds of the Philopatrian Ball will go toward the expense of these patients Instead of erecting a new building for the treatment of these cases, certain wards will be set apart in those hospitals which will care for the tuberculous, and to them the proceeds will be distributed The hospitals which have taken the greatest interest in this work are the St Agnes and St Mary's The amount of money paid each week for the support of these patients is $5 00

THE PUBLIC SERVICE

Movements of Army Medical Officers —Special Assignments Col Charles R Greenleaf assistant surgeon general, U S A to Savannah Ga and to such other places as may be necessary for the purpose of inspecting the medical department at that and other stations Col Wm H Forwood, assistant surgeon general U S A, from the U S Soldiers' Home Washington D C, to duty as chief surgeon department of California San Francisco, Cal relieving Lieut Col Johnson V D Middleton deputy surgeon general U S A on his retirement from active service Major Henry S Kilbourne surgeon U S A to report to the quartermaster general as medical inpsector of transportation Acting Assistant-Surgeon Aristides Agramonte to Havana Cuba on business connected with the study of the cause and prevention of yellow fever under special instructions from the surgeon general of the army

Medical Supplies Major John B Hall, surgeon U S A, from mustering out duty in Pennsylvania to San Francisco, Cal to assume charge of the medical supply depot at that place Major James E Pilcher, brigade surgeon Vols from the Seventh Army Corps to duty as supply officer at Savannah Ga

To Santiago Major Randall R Hunter brigade surgeon Vols from leave of absence to report to the commanding general and Acting Assistant Surgeons Frederick Hadra Frederick W Fabricius from the Josiah Simpson General Hospital Va and John C Greenewalt from Fort Thomas, Ky all via New York City

To Pinar del Rio Acting Assistant-Surgeons George B Lawrason and F Medina Ferrer to report to Brig Gen George W Davis for duty with troops going to that province

To Porto Rico Major John Van R Hoff surgeon U S A assigned as chief surgeon of the Department Acting Assistant Surgeon E A Southall, via New York City to Ponce for duty with the Nineteenth U S Infantry

To the First Army Corps To report to the commanding general at Macon Ga Capt Charles E B Flagg assistant surgeon U S A, from the General Hospital at Fort McPherson Ga

To the Second Army Corps Major Edgar A Mearns, brigade surgeon Vols from the First Army Corps to Athens Ga for duty with the Third Division

To the Fourth Army Corps Major Henry D Thomason brigade surgeon Vols and the following acting assistant surgeons to report to the commanding general at Huntsville Ala R E Caldwell from Richmond Va Charles Farmer from Lexington Ky R L Taylor from the Josiah Simpson General Hospital Va Edwin P Wolfe from Washington, D C, and J Stebbins King from New York City

To the Seventh Army Corps Major Ira C Brown brigade surgeon Vols to report to the commanding general Major William S Bryant brigade surgeon Vols to Brig Gen Lloyd Wheaton as chief surgeon, First Brigade First Division and Major George B Bunn, brigade surgeon, Vols to Brig Gen H C Hasbrouck as chief surgeon, Second Brigade, Second Division

To mustering out duty Major Ezra Woodruff surgeon U S A, from Fort Trumbull Conn to New York City for N Y Vols Major W C Borden brigade surgeon, Vols at Washington, D C for the Fifth Company U S Vol Signal Corps Major Richard W Johnson brigade surgeon Vols at Chicago Ill, for the Seventh Company U S Signal Corps and Capt Henry R Stiles assistant-surgeon U S A, at Portland, Me for the Eighth Company, U S Vol Signal Corps

To duty at hospitals, etc General Hospitals Major Benjamin F Pope surgeon U S A to Savannah Ga for duty pertaining to the supervision of the construction of the general hospital at that place and as surgeon in command of the hospital when completed To the Josiah Simpson Hospital Va Major Edwin F Gardner, surgeon, U S A, from duty with the Third Division Second Army Corps To the Hospital Ship *Relief* Lieut Weston P Chamberlain from the General Hospital, Fort Monroe Va To the Hospital Ship *Bay State* Acting Assistant Surgeons Charles E Marrow from the *Relief* and Randolph M Myers from sick leave in Washington D C To the Hospital Transport *Mobile* Acting Assistant-Surgeon Charles B Mittelstaedt to Savannah, Ga To the U S Hospital R R Train Acting Assistant-Surgeon C L G Anderson

To duty at Military Posts Major Louis A La Garde, surgeon U S A, from Fort Robinson Neb to the U S Soldiers' Home Washington D C, as attending surgeon To the Washington Barracks D C Acting Assist Surgeons C B Millhoff, from Johnstown Pa Benjamin J Edger, from *the General Hospital* Fort Myer Va and Isaac W Brewer from sick leave in Washington D C To Columbus Barricks, Ohio Major William J Wakeman, brigade surgeon Vols from sick leave and Acting Assistant-Surgeons Harold W Cowper from Fort Myer Va and Louis T Hess from Washington D C To Fort Adams, R I Capt George J Newgarden, assistant-surgeon U S A, from duty at Savannah, Ga To Fort Leavenworth, Kas Lieut Basil H Dutcher assistant surgeon, U S A from Fort Grant, Ariz, and Acting Assistant-Surgeon Francis M McCallum To Fort Grant Ariz Acting Assistant-Surgeon John E Bacon, from Fort Hancock, N J To Fort Crook, Neb Acting Assistant-Surgeon John R Hicks, from the General Hospital, Fort Monroe Va

Leaves of absence granted or extended Majors Charles Richard and *William R Hall surgeon, U S A Lieut Clyde S Ford, assistant-surgeon* Fourth U S Vol Infantry and Acting Assistant-Surgeon E W Pinkham

Sick leaves granted or extended Major Wallace Neff, brigade surgeon Vols Capt John D Howe Assistant-Surgeon Sixth Ohio Infantry Lieut Maurice C Ashley assistant-surgeon First New York Infantry and Acting Assistant Surgeons Charles S Stern, E Van Hood and Isaac W Brewer

Resigned Major Burton S Booth, surgeon Two Hundred and Third New York Infantry Major Salem Heilman, surgeon One Hundred and Fifty Seventh Pennsylvania Infantry, Lieut F L Albritton, assistant-surgeon Sixth Ohio Infantry, and Lieut Paul M Mecray assistant-surgeon Fourth New Jersey Infantry

Honorably discharged Major William H Arthur, chief surgeon Vols (Major and Surgeon U S A) his volunteer commission only, Major Wallace Neff, brigade surgeon Vols

Contracts annulled The following acting assistant surgeons From the General Hospital Fort McPherson Ga James H McCall, of Huntingdon, Tenn, Edwin M Patterson of Washington, D C, and James C Ross of Salt Lake City, Utah From Washington, D C Frank Garnett Young of Clarksburg, W Va From Fort Meyer Va, Edwin C Barstow of Washington, D C From the Josiah Simpson Hospital, Va Wallace S Chapman of Denver Colo and from the General Hospital at Ponce, P R John L Goltra of Buffalo N Y

CHANGE OF ADDRESS

Allen B G from Robbins, Tenn to Somerset Ky
Brooks, S D from Port Townsend, Wash to Nat'l Quarantine Station, Angel Island Cal
Brewster, B H from Hooper to Petrolia Pa
Campbell, J G, from 5107 Lexington ave to 6857 Wentworth ave, Chicago *Ill*
Chapple C L from Asbury to Barrabas Hospital Minneapolis Minn
de Beque W A E, from De Beque to Youngerman bldg, Des Moines Iowa
Fenelon M P from Ripon Wis to Cartville, La
Graham C A from 16th and Curtis street to box 764, Chicago
Joslin, H, from Stedman bldg to 921 Logan ave Denver Colo
Kreass S S, from 1316 to 1510 Walnut street Philadelphia Pa
Loper, J B from 415 8th to 1213 25th Des Moines Iowa
Parker, W T from Asylum Station to Westboro, Mass
Paterson, R N, from Oakland to 1606 California street San Francisco, Cal
Shortridge, W R from Elgin, Ill to La Plata Mo
Sweeney A from 366 Wabasha street to Lowry Arcade, St Paul, Minn
Van Fradenburg G A, from Alcott to Manassa, Colo
Wilson H, from Lima Ohio to North Loup Neb
Whalen, C J, *from 237 North Clark to 235 Dearborn ave Chicago, Ill*

LETTERS RECEIVED

Ammonol Chemical Co New York City, Allen, E E, Charlestown, Mass

Burroughs, S E Allison Iowa Battle & Co, St Louis Mo Baker, H B Dighton Mass Bedford Springs Co Ltd, Bedford, Pa Bundy Frank E Lamp Co Elmira, N Y Bassett M L Cleveland Ohio Behle W H Salt Lake City Utah Burns W R Deckerville Ark Black J F, New York City Belsheim A G, Iowa City Iowa Bromine Iodine Chemical Co Binghamton, N Y Burroughs S E, Allison Iowa Barton E, Portland, Ore

Chicago Medical Book Co Chicago Ill Clark, David, Springfield Mass, Custer H J Columbus Ohio Cheney, J V Chicago Ill, Card, S W, Warrenton Ga

Dewey R Wauwatosa Wis Davis R C, Ann Arbor Mich Dorman H W Harbor, Ohio, Dickenson J B Jersey Ohio

Elliott A R New York City Eagleson J B, Seattle Wash

Fischer Chemical Importing Co, New York City Fairchild Bros & Foster New York City Fries Bros, New York City From, F J, Templeton Iowa

Gardner, R W, New York City Galloway, D H, Chicago Ill, Green, D W Dayton, Ohio Gray J T St John, Kans

Hicks Newspaper Adv Agency New York City Hektoen L Chicago Hutchinson, Woods London Eng Hilliard W Denver, Colo Henry, F N, Detroit Mich Hummel Adv Agency A L (2) New York City

Judkins O P Summerset, Iowa Jones, C C, Galveston Texas, Jelks J T, Hot Springs Ark

Kindred, J Jos New York City Kimbrough P M Sheppardstown, Miss Kress & Owen Co, & The Viskolein Co, New York City Kilbourne H S New York City

Lord & Thomas Chicago Ill

Merrick M B Passaic N Y, McCassy J H (2) Dayton, Ohio Merck & Co, New York City Moore's Newspaper Subscription Agency, Brockport N Y Maltine Mfg Co, Brooklyn N Y Malt Diastase Co, New York City

Nelson, G T Morris, Ill Norwich Pharmacal Co (2), Norwich, N Y National College of Electro Therapeutics Lima Ohio

Oliver Typewriter Co (2) Chicago, Ill

Pumphrey R J, Massillon, Ohio Palmer, L B, Petty Texas, Plumbe, E O, Rock Valley Iowa Paul E Derrick Adv Agency, New York City, Peavy, J F Asheville N C Preston C H, Davenport Iowa Parmele Co Chas Roome New York City Phelps A V, Cincinnati Ohio Peacock Chemical Co St Louis Mo Planten & Son, H, New York City

Reed, C A L, Cincinnati Ohio Reed & Carnrick, New York City, Roberts L B Philadelphia Pa Roseburg, B Florence, Colo Russell R Sun Bright Tenn

Sherin W M Chicago Ill Slocum, C E, Defiance Ohio, Smith, Kline & French Co Philadelphia Pa, Scherer, E A, San Carlos Ariz, Snorf, P L, Piqua Ohio Sternberg, Geo M, U S A, Washington, D C Scherer Otto Detroit Mich Schering & Glatz New York City

Thomas A L Kirksville Mo Thomas, H A Boston, Mass Trochet, Geo B Detroit Mich Tyree J S, Washington, D C, Tuley H E, Louisville Ky The Bovinine Co, New York City

Upson H S Cleveland Ohio

Vinyard S P, Kansas City Mo Vito-Eclectic Sanitarium Co, Kansas City Mo

Waite H N Johnson Vt Walsh W H, Frederick Md, Watts C W, Moberly, Mo Wells, Geo F, Guinda, Cal Wingate, U O B, Milwaukee Wis Wood & Co, William, New York City

Young, F McConnelsville, Ohio

The Journal of the
American Medical Association

Vol XXXI CHICAGO, ILLINOIS, DECEMBER 31, 1898 No 27

ORIGINAL ARTICLES

HYGIENE AND DIETETICS IN DIABETES MELLITUS

Presented to the Section on Physiology and Dietetics, at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY FRANCIS E CARROLL, M D , A B
BOSTON, MASS

If perfect culture of mind and body was to be had, a perfect knowledge of the laws of life, an intellect and body trained, the moral faculties of man in balanced order, the human race would not perish under a grievous yoke of disease, the youth of man would be protected and become more perfect, decay of life would be blended with happiness of perfect knowledge, life would become more vigorous, disease more remote Life is an entity, a constant growth, a resultant waste, a potential energy an eventual expenditure No agent has been found to arrest the waste or crystallize the tissues of growth and vigor from decay To do so would be death itself, for life is an incessant change, its vital energy dependent upon the laws of nature, a neglect of which inevitably produces lamentable results To prolong the period of vital energy, the improvement of the nutrition of the tissues is necessary, either by hygiene or by preparing the proper food for the purposes of nutrition, or removing or preventing those chemic changes in the tissues, called decay The benefits derived from these principles have extended the duration of life, and it is from this irresistible inference—the instruction derived from experience—that the hygienic and dietetic treatment adapted to diabetes mellitus can abridge or prolong human life It would be wise had man a mystic elixir capable of preserving life, where there had been injurious habits and old damages, of rendering a stream pellucid which is turbid at its source, but our nature, having no *Deus ex machina*, must look to the proper supervision of that upon which health and life are dependent

One great means in the efficacy of hygienic treatment of diabetes mellitus is *air* The air influences, by variations in the amount or condition of its normal constituents, by difference in physical qualities, or by the presence of impurities The patient should be surrounded by most favorable hygienic influences, because of the mischievous consequences of the disease proceeding slowly or rapidly according to the constitution, age of patient and circumstances in life No one who has paid any attention to the condition of health in disease can doubt that impurity of air marvelously affects the individual in the convalescent state The respiration, and cutaneous emanations of man, the impurities from combustion of light and heat, the effluvia of uncleanliness of rooms and persons demand that the sleeping-room should be well ventilated, removed from any impure flow of air, and that the house should be wholesome and well drained The patient should pass much of his time in the open air, the action of the sun's rays vitalizing the atmosphere and imparting vigor and energy to the system During the cold of the winter a glass house with southern exposure is a great comfort For cleanliness and to preserve a healthy state of the skin, bathe regularly in water not too cold, not allowing the body to be long submerged After a warm alkaline bath in winter, or a tepid bath in summer, either on retiring at night or arising in the morning a brisk friction or massage, using coca oil, facilitates the removal of effete epithelium, and is conducive to stimulating a healthful action to an otherwise dry and harsh skin A foot-bath of hot water, with the addition of a tablespoonful of mustard, is very useful where there is fulness of blood-vessels in the head, continued sleeplessness or obstinately cold extremities Warm flannel next to the skin, and residence in a warm equable climate is an aid to health

For individual life to continue to exist the healthfulness of its envelope—the body in which it dwells—must be preserved So the ingesta, which goes directly or indirectly to the growth, repair or the production of energy in any form, must be administered to insure the proper continuity of the body, its textures, its organs, its processes and actions Alimentation and beverages are necessary to the existence of all organized beings, but the requisite quality and quantity depend very much upon the circumstances connected with each individual case It is quite obvious, that to accomplish the best results in the processes of healthy nutrition, the application of dietetic principles is a most prominent feature, and in the widest acceptance of the term it is of primest importance—the corner-stone in the treatment of diabetes A necessary reform of diet should be had in diabetes A strict disciplinarian subjects his patient without reason, to a stringent diet, another more captious, permits every conceivable latitude A conscientious, docile patient obeys the strict rule, gets disgusted with mutton or beef, and alimentation in general, consequently is nauseated by a meat diet and abandons it A capricious, covert one, disregards all necessity, and deceives the animal economy

The efficiency of diet depends upon the proper elimination of all ingesta containing grape sugar cane sugar beet root sugar and starch The glycogenic function of the liver and its hepatic action on carbohydrates renders food of such assimilative nature injurious, aggravates the glycosuria and the excretion of sugar gradually increases A certain exact determination of ingesta and its effects in reference to carbohydrate metabolism should be outlined and noted The normal assimilative action of the liver should be enabled to be approximately defined and its carbohydrate *metabolism estimated*, by a second ng the patient from a generous diet and directing a strict diet from ten days to a fortnight After having followed this cautious procedure, a standard is obtained whereby the effects of a stringent diet can be readily determined

In many cases, a gradual substitution of articles of a mixed diet, in definite quantities, may be cultivated with advantage, and should sugar reappear, the diet can be duly regulated In severe cases, carbohydrates should be permitted and results noted In a large number of diabetics, a pure skim-milk regimen results in a total disappearance of sugar, whereas others can take milk and potatoes, in small quantities, with success, and with slight increase in amount of sugar Individual idiosyncrasies must be watched and suspected, as some patients tolerate starch in one form better than in another, as bread rather than potato Many diabetic foods possess an injurious amount of starch, and others are useless and absolutely indigestible, so that the *summum bonum* of diet must be insisted upon with such additions as are judicious An exclusive animal diet may reduce, or cause the sugar to disappear, but it can not always be tolerated, for appetite will grow "stale," and the necessity of a mixed diet becomes a serious study In this disease, the nervous system is correspondingly implicated and a rigid devotion to animal ingesta increases the tension, for there is a physical degeneration peculiar to this affection and a mixed diet is the wisest course to pursue When thoughtfully regulated, such a regimen is more likely to keep the disease stationary by upholding vitality than by being confined to one diet, while the stomach and system become debilitated with results of innutrition, and sooner or later succumb to the fell destroyer Milk, when assimilable, is a boon to the invalid When digestion is apt to be deranged, peptonized milk may be substituted, but the monotony of a milk diet becomes unbearable Cream, as long as it agrees, may be allowed, and cod-liver oil is a nutriment, particularly where fatty articles are easily retained

To many of the laity there are certain fixed principles by which this disease must be attacked, and one is that complete abstinence from amylaceous food or any liquid or substance convertible into sugar is necessary Logically true these premises may be, yet a suitable diet, eliminating all saccharine and amylaceous, sugar-producing substances, strictly speaking, is impossible There is skim-milk treatment, best used in the incipient stage, causing the sugar to disappear, and an abatement of symptoms as long as the diet is rigidly followed, in others, where disease is persistently established, it is not of any use, despite all treatment Even in later life, when diabetes is most amenable, fat meats, eggs, soups and fish may be taken daily, to vary the diet as much as possible, taking the hearty meals in the earlier part of the day The most important article of diet—bread—deprivation of which is illy borne by the patient, is a source of careful thought to the physician—the substitutes of bread are so various, imperfect and injurious Gluten flour, however prepared, possesses starch Where extreme discipline is required, the carefully prepared bran, thoroughly washed and free from starch, or bran prepared by the cold-air blast process, may be used Pavy's almond food, Seegeus' almond food, Camplin's method of making biscuit of bran flour, Kueltz's biscuits of inulin from Iceland moss, are substitutes for bread When exclusive diet is not determined the ordinary bran may be used

In the nature of beverages, milk, combined with lime water, soda water, or buttermilk, is good, or a refreshing draught is Apollinaris, Vichy or carbonated waters There is no water that so alleviates the distressing thirst of the diabetic as Waukesha Bethesda water Certain mineral waters have long enjoyed an overestimated reputation in diabetes, as the Vichy and the Carlsbad, due to their aperient action on the liver and bowels Mineral waters in America are legion, and each has its exponent with proofs accordingly

Use of alcohol in diabetes demands careful attention If used, non-saccharine wines are prescribed—hock, Bordeaux, and German or French wines, even dry sherries and madeira—but under suitable restriction Bordeaux claret is preferable to whiskey, and no malt liquors or strong alcoholic drinks should be allowed Alcohol should be prohibited when it acts detrimentally to the nervous system and when albuminuria is present With all due regard to alcohol, the animal economy is best without it The great object, in dietetic treatment of diabetes, is to manage digestion, and check or diminish the formation of sugar

The writer, having confined the paper to hygiene and dietetics, has purposely avoided medicinal treatment, and trusts, however inefficient the line of thought has been, the reader will pardon the meager discussion of a subject most important to the laity He will now offer a bill of fare, trying to be liberal enough to satisfy the palate of the diabetic, and subject to the blue pencil of the physician in his special case

PERMITTED

Meats —Flesh meats of every variety beefsteak, beefsteak with fried onions, mutton or lamb chops, roast beef, corned beef, kidneys, broiled or stewed, smoked beef, calfs' head, sweetbreads, lamb fries, veal, tripe, ham, bacon, tongue, sausage, pigs' feet *Poultry and Game* —Broiled chicken, chicken salad, game cooked in every way *Fish, fresh and salted* —Fish in oil sardines, spawn lobsters, oysters, clams, crabs and shrimps *Eggs* —In every way, scrambled, boiled, omelets of all kinds, wherein flour, sugar and prohibited vegetables are not used Cream, butter, cheese, sour milk *Soups* —Animal broths, beef, veal, chicken, ox-tail, turtle, oyster broth, clam broth, terrapin, avoiding vegetables inadmissible, and flour and starchy substances, as rice and vermicelli *Green Vegetables* —Summer cabbage, turnip tops, spinach, watercress, mustard and cress, green string beans, green ends of asparagus tops, green parts of lettuce, celery tops, sorrel, mushrooms, dandelions, sauerkraut, cucumbers, olives, pickles Use moderately cauliflower, brussel sprouts, young onions, broccoli *Fruits* —Gooseberries, red currants, plums, cranberries, strawberries, cherries—acidity neutralized with soda bicarbonate *Bread* —In known amount, made of gluten, bran, almond flour or inulin *Custard* —Made without sugar *Nuts* —Almonds, walnuts, brazils, hazels, filberts, pecans, butternuts, cocoanuts Salt and pepper may be used *Drinks* —Tea, coffee, cocoa from nibs, mineral waters, soda waters, dry sherry, claret, acid wines, dry sauterne, rhine, moselle, burgundy, chablis, hock, brandy, gin No malt liquors Burton, when long bottled, light beer in moderation, also bordeaux Glycerin may be used instead of sugar in tea or coffee when imperative, but it is wise to eliminate it as a substitute for sugar altogether

PROHIBITED

Sweet dishes–sugar in any form *Bread*–Wheaten bread, ordinary biscuits of all kinds cake, desserts made with flour or sugar, puddings and pastry of all kinds, honey, rice, corn, flour, sago, tapioca, arrowroot, macaroni, vermicelli *Farinaceous or Saccharine Vegetables*—Potatoes, artichokes, turnips, carrots, parsnips, peas, beans, beets, spanish onions, asparagus, tomatoes, stalks and white parts of cabbage, lettuce, cauliflower, celery, broccoli, radishes Liver of all animals, nuts, chestnuts, fruits of all kinds, fresh or preserved, jams, syrups, sugars, diabetic foods, sweet pickles *Drinks* — Chocolate sweet wines, sparkling wines, port wine, liquors, sweet ales, mild and old, porter and stout, cider Milk does not need to be absolutely banished, but if used, use sparingly

IMPORTANCE OF PHYSIOLOGY AND DIETETICS TO THE SURGEON

Presented to the Section on Physiology and Dietetics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY CHAS G PLUMMER, B S, M D

SALT LAKE CITY, UTAH

The dimensions of this subject are such that it is impossible to encompass it by the confines of a single article, in a limited time

The relationship existing between physiology and surgery, in every phase of our profession, is so intimate that, to think or work in the latter without a thoughtful consideration of the former, can never lead to successful results When we look at what is done by our masters in surgery, we are convinced that they only attained such perfection in their handling of surgical subjects by close application of the very principles of the science To become merely a flash operator or a mechanic demonstrator of what the human hand, aided by a well-trained eye, is capable of in a dexterous way, may go a long way toward giving that one a wide reputation as a surgeon, but, in the long run, the surgeon is known by his results The brilliant operator is bound to secure certain excellent successes, but, if he maintains his standing in the major work that comes to him, he can not give the cold shoulder to physiology and dietetics They are his guiding stars No definite line can be followed, he must cut according to his cloth, and he who lacks physiologic good sense, no matter how otherwise endowed, is no surgeon But time will not permit me to go into the minutiæ of the physiologic and bacteriologic laboratories, or into the very essence of physiology itself, and trace out its many ramifications Such an exhaustive treatise on the subject can be found in any of the most recent text-books, in much better form and more acceptably than I am able to place it before you

There is no reason why a surgeon should be a better physiologist than a practitioner of medicine, an obstetrician, a gynecologist, an oculist, or any other disciple of the many branches into which the profession has been divided The very foundation-stone of the science of medicine is physiology, it must be, from its very nature, for surgery is really but a branch of medicine, and all who do work in our numerous specialties, must, by wise legislation, first attain the degree of Doctor of Medicine Anatomy must be what some might term almost the right arm of the surgeon But if this be true, physiology is the right arm of anatomy For, of what satisfaction is it to him who performs an operation, to look over his work, dress the wound, and then to see his patient die because the normal functions of the body go unattended? Is it not physiology that steps in here, takes up the work where the knife left off, and by intelligent management adds another success to the surgeon s credit? The knife in the most skilful hands the world ever knew can do only so much It may relieve organs of the burden of diseased tissue, it may lop off unnecessary and useless members, but who ever heard of its replacing extirpated tissue of the stomach or intestinal tract, that could perform the functions of that lost? How long would our patients survive if for instance, the entire alimentary canal were removed? Very true, indeed, sections of great length have been made from the intestinal tract, huge slices have been cut from the stomach, and the patient made an excellent recovery, but, if the physiology of the bowel be destroyed, or even too greatly interfered with, if the destruction of the glands of digestion take place, death comes inevitably

Thus at the very elbow of the surgeon stands physiology, to warn the too venturesome operator that a halt must be called if he values his patient's welfare By physiologic forewarnings we come to recognize malignant conditions interfering with alimentation and other functions, and to be forewarned is to be forearmed These indicate to the surgeon, not only the position, but the character and extent of the involvement of normal tissue, thus enabling him to lend a helping hand to his greatest ally

Great successes have been recently announced wherein the adaptability of the least remnant of the stomach, left after excision for malignant disease has been demonstrated Schlatter (vide JOURNAL, vol xxx, p 265), Krönlein, Schuchardt, and Langenbuch have related to us their partial or complete gastrectomy, and the duodenum took up the task of playing stomach for the living example, and did it with success

We do not know all of physiology as yet Still, without paying it our most profound respect the most brilliant results of modern surgery would come to naught Thus with due respect to anatomy, to express myself more clearly, the surgeon must be equipped with two right arms, physiology first and anatomy second

Were it not the fact that all bodies or engines of use must, in order to perform their necessary functions, be supplied with the proper elements to replace loss and repair damages, there would be very little for the surgeon to do beyond the mere exhibition of his skill and dexterity in handling the scalpel Then all operations would be successes, and the surgeon would be the only truly great one among us

The principle, that attention to the physiologic details of all operative work must ever be borne in mind holds good under all circumstances The operator who willfully violates a physiologic principle, either in the immediate operation or in the post-operative care of his cases, will pay for it as dearly as he who goes contrary to any established surgical procedure Infection of the intestinal tract, for instance, is as easily accomplished as infection of an open wound, and usually causes more disturbance to the patient than if the operated area became one solid slough There is not enough attention paid to the ante operative and the post-operative care of patients, especially in abdominal surgery One of the first questions asked by the nurse, when the operation is over, is, "Doctor, what may the patient have to eat?" Often, without waiting to consider the amount of resistance with which the patient may be endowed, the surgeon will say, "Oh, almost anything he wants," thus committing one of the grossest errors of which he is capable So much has been said and written on the subject of dietetics, in connection with surgical work, and yet so little is accurately known, that it behooves each operator to himself become an investigator, and as his experience becomes greater with the increase of work, he will be enabled to lay down certain principles by which those coming after him may profit

But the trouble is that as soon as the mere operative manipulation is a thing of the past, the patients usually cease to be an item of interest, except in a perfunctory way, and they are left to the tender mercies of a house physician, a nurse, or an undergraduate Our surgeons are not physiologists The matter of experimentation, carried out with strict adherence to scientific principles, is almost unknown to the great majority of them The application of the simplest facts concerning diet and assimilation is disregarded The condition of the patient, that element about which so much talk is wasted and so little is known, which we call "shock," *is often overlooked* The fact that shock should enter into our considerations in minor operations is scarcely thought of, for to the mind of many an ambitious operator of today, such an element is unworthy of notice, except it be in connection with the invasion of the abdominal cavity To him, an assault on the abdomen by a route which leads to the capitulation of some of its organs, is the acme of his desire The terms "laparotomy," "celiotomy," "abdominal section," and lastly "vaginal section," are significant of such visions of greatness and reward to many men that they overshadow all other approaches to a career of usefulness and distinction To be able to add name after name of successful sections of the abdomen to one's record, seems to be the height of the ambition of many with whom we come in contact It is indeed lamentable that result cuts no figure A cure often takes a secondary place in many long lists of statistics The mere fact that the operated ones live to get on their feet and drag about in a half-dead manner for months and sometimes for years, perhaps with a post-operative hernia also, does not seem to have any influence on him who has his eye on the fee rather than on successful work If the surgeon, if all practitioners, in fact, were better physiologists, if all physicians paid more attention to diet and assimilation, in the administration of remedies and the care of those to whom they owe their time and their best efforts, the surgeon, specifically, would not reap such rich rewards

We can not overestimate the great value and importance, not only to one's self, but also to the patient, of a thorough knowledge of the subject of the administration of food, its treatment by the stomach, its assimilation and its final distribution through the proper channels If we resolve the subject into a question of importance to the surgeon, it comes more closely to him when the matter of dietetics is considered in his care of patients after abdominal operations One should not forget the all-important fact that the processes of waste occur continually There can not be a moment of our lives, be we sick or well, asleep or awake, when such waste of tissue does not go on Repair must take place equally as rapidly, else we lose, so much in fact, that our life is endangered For this reason regularly feeding the operated one at night is of as much importance as food by day The vitality must be sustained by the proper exhibition of easily assimilable materials, either by the mouth or rectum, from the very outset It is a grave error to starve the patient after section of the abdomen, a certainty which experience alone can teach us It is a fact that must be taken into consideration that the functions of the vasomotor system are abnormally suspended by the shock sustained by one undergoing such a major operation Consequently, the administration of foods of almost any character, until the equilibrium of the vasomotor system is restored, is most unwise Usually we look for one to be fully out of shock in from twenty-four to thirty-six hours Then the stomach is in fit shape to readily seize upon nutriment in small amounts, often repeated, and in a concentrated or predigested form The intestines will be in readiness to assimilate and convert into proper solution the food administered, and the weakened heart will be buoyed and strengthened thereby, its beats will be firm and full, and of such a quality as to assure us our patient is in good condition

We so often hear of and sometimes see patients who, it is claimed, die of exhaustion What is this exhaustion? Too often, it may be, it is but the consequence of a succession of shocks, operative or otherwise, sustained by the individual, which so overpower and outweigh the recuperative ability that what little spark of vitality remains flashes out and they are gone If this obtunded sympathetic system were taken into consideration at the time of extensive injuries to soft parts, and to the extremities, amputation and operation would not be so hurriedly advised and performed Shock of operation added to shock of injury, is like feeding fuel to a flame that should be extinguished Physiologic reaction rarely sets in where a system has been so ignorantly handled If we would but stop and look into the book of the physical body, on the pages of which we read the rapid, weak, irregular pulse, the total insensibility to pain, perhaps the partial or complete loss of consciousness, the contracted pupil, the blanched face, the pinched, drawn countenance, the sighing respiration, the refusal of nourishment with the consequent craving for water, here we would see, as it were, an open page of the plainest most simple teachings from the book of physiology

Physiology gives us at a glance the contraindication to operation, and it tells us how long, and to what extent we may pursue our cutting Who would undertake operative procedure on a kidney without determining, by physiologic examination and investigation, the condition and amount of urinary secretions? It is the test-tube, the microscope and the germ cultivation, in the hands of the physiologists, that have made it fairer sailing for the surgeon, and have removed many obstacles among his onerous duties Virchow, Pasteur, Koch and numerous others are they to whom the surgeons of the present owe their allegiance These investigators have made it possible for their *confrères* to make unheard of assaults on man, and have opened up fields of labor for him which seem almost exhaustless Under the guiding hands of these geniuses, the surgeon cuts here or there, taking out tissue, in one instance for examination, and in another for demonstration, then boldly hews to the line

This is not the place to give directions for preparatory measures, when abdominal operations are under advisement Still, I believe that if the patients be well and considerately nourished, even up to the limit of their capacity, before operation be undertaken, their immediate reaction and consequent convalescence would be a matter of much congratulation to them, as well as to ourselves For it is no longer a question of doubt in my mind that the preparation of the patient immediately before operation has much to do with the outcome of the attack upon his organism

It would be the height of folly for us to allow a subject to go under anesthesia without a careful examination of heart and lungs, and without having cleansed their economy by the ingestion of large quantities of pure water Their wholesome, nourishing food need not be denied them until at least twenty-four hours previous to the time of attack The water really aids greatly in the excitation to the discharge of gastric juices, dilutes the nourishing materials, and increases assimilation So I would not starve a patient and then sluice him out with gallons of hot water, but I would follow the plan above, and see the operated one come from under anesthesia more quickly, with a stronger pulse, and with less shock than otherwise I am convinced that one of the most formidable elements we have to contend with in abdominal surgery is that of intestinal flatus I am also convinced that a great amount of the annoyance experienced by the patient in enduring it, as well as by the surgeon in endeavoring to combat it, might be eliminated by proper attention to the materials which enter the alimentary canal Gaseous distention of the intestinal tract may occur equally as readily when we have prohibited the ingestion of food as when we have allowed something which will cause fermentation and consequent tympanitis

I maintain in conclusion that the absolute observance of the physiology of digestion, the proper selection and careful and regular administration of articles of diet for hygienic results, and the study of such foods as are given for their therapeutic value, will minimize such disturbances and contribute greatly to the comfort and recovery of the patient Without this due consideration for the complex human machinery and its conservation of energy, without a due allowance for the condition of heart, lungs, brain and kidneys, surgery will continue to be largely unsatisfactory both to surgeon and patient

DISCUSSION

Dr L Duncan Bulkley of New York said that he was indeed pleased that this very important matter had been so ably presented It was the greatest mistake to regard only the operative side of surgery The surgeon should be the accomplished, thinking physician, and as such he could save lives which otherwise were often sacrificed He stated that Dr Joseph C Eastman, in the presence of a number of physicians, had stated that during the past few years he had certainly saved some lives by the rigid employment of the plan of giving milk, warm, pure and alone, as just advocated by the present speaker in his paper This he did, both before and soon after operations, and found that patients rallied and improved as never before Dr Bulkley wished to urge again, and most emphatically, the value of this method of feeding in connection with operations

Dr E Stuver—This is a subject of the very greatest importance In the selection of food for diseased conditions and especially in those cases where surgical shock is a factor to be considered, great care should be exercised to secure foods containing the greatest amount of tissue building and force producing materials, but such as will throw the least strain on the digestive and assimilative organs and at the same time least interfere with free elimination Since the great importance and far reaching consequences of auto intoxication have been recognized, greater attention is being paid to the excretory organs, and free elimination of toxic materials is now regarded as one of the most important matters in the management of any case This practice is being followed by excellent results both in surgery and medicine, and many cases that formerly, owing to improper diet and retained poisons, died are now being saved

Dr Plummer in closing the discussion, said the subject was of great importance to him, and ought to be to every thinking physician His attention had been called to the demand for food by those suffering from shock, by the manner in which dumb animals act when sick or injured A sick or injured dog refuses food until such a time when his natural appetite calls for it—why should not the human body be supplied on the same principle? The employment of good sense and the following of physiologic teachings should guide us, then our results would be better and more satisfactory

---

PHYSIATRICS, OR NATURE'S THERAPY

Presented to the Section on Physiology and Dietetics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY C F ULRICH, A M, M D

WHEELING W VA

Nature is, without doubt, the best, the most successful physician, when she is permitted to have full sway and her mandates are obeyed Almost every disease, every ailment, every departure from the normal condition, exhibits a tendency to recovery In the human body, as in that of the animal, there exists apparatus for the removal of elements that disturb the healthful working of the internal machinery such as the depuratory system, i e, the bowels, the kidneys, and the sudoriferous glands The work of depuration is not confined to the above named organs, neither is that their only function, since the intestinal tract is largely concerned in digesting the food and preparing it for assimilation, and the system of sudoriferous glands serves to cool the surface of the body during excessive heat and in fevers The greater number of diseases that afflict man and sometimes cause his death will result in recovery, if circumstances are favorable, and if there is not some unnecessary interference by the patient, his family, or an unskilful physician I wish not, however, to be understood as insinuating that the physician is a superfluous piece of furniture and should be abolished Far be it from me to assert any thing so heretic I will stand up for our beloved profession at all times and under all circumstances Yet I should be very happy could I live to see an expurgated edition of the medical calendar In another part of this paper I will endeavor to show how much benefit the skilful, conscientious physician can confer upon his patients, even though he does not cram them daily with poisonous or deleterious drugs or cut them open, remove certain parts from their bodies, and sew them up again, as the tailor does in repairing an old garment that is wearing out Unfortunately he can not imitate the tailor, who inserts a new piece where he has removed the defective part He can not replace the organ that has been removed by inserting a new and healthy one, thus preserving the natural function The body, after such a mutilation necessarily remains an imperfect machine The occult principle which we call nature or vital force is the chief motive power in the development, the growth and also the decline and death of the human body It may seem somewhat paradoxic to assert that the vital force is instrumental in the induction of decay and death Yet it is ap parent to every careful observer that all vital processes are self-limited, and are continually undergoing changes From decay and death are developed the elements of a new life, which, in its turn, must submit to the same decline and final dissolution

We will consider in this paper only the pathologic conditions which result in what we call disease, their detection and their possible cure Animals and savages, or, as I prefer to call them, children of nature, are not subject to as many diseases, nor to so great a variety of them, as civilized people Animals die because they are killed and eaten by others, or are destroyed by man, for various reasons Otherwise they mostly reach the period of life allotted to them by nature's laws Diseases exist principally among animals that have been domesticated by man, and consequently do not live in a state of nature The children of nature, or savages, of whom the aborigines of America may be regarded as an average type, are usually born healthy, grow up without requiring much care, and pass their life in a state of health The men hunt, fish and carry on war, the boys are trained in all the exercises pertaining to war and the chase, spending most of their time in the open air The women feed and rear their children, cultivate the soil, make the few garments worn and prepare the frugal meals for the family In this simple manner they pass their lives, very seldom suffering any disturbance of health When they have accomplished the period of life allotted to them, they quietly lie down and die This description applies to them when they lived in their native simplicity, before the paleface—the man of civilization—came among them, furnishing them with firearms, that they might have greater facilities for mutual destruction, and with firewater to advance their powers for self-destruction He inoculated them with hitherto unknown diseases, drove them from their forest homes into less favorable regions, where they pined away, being no longer children of nature In speaking of the children of nature, their mode of living, their healthy condition, their painless death at the end of their allotted time, I must not be understood as commending the barbarity, the ferocity, the utter disregard for human life that characterizes many of them Nor would I hold them up as examples to civilized people in anything except their obedience to the laws of nature, which was not due to their having studied hygiene, or having observed sanitary rules on principle, but which arose simply from a natural instinct and an utter ignorance of the artificiality and the conventionalities of civilized life

I have merely introduced this as an illustration of what will happen when the laws of nature are obeyed, be it from instinct, as among the savages, or as the result of intelligent teaching Now what is the reason that in civilized countries so many die early, or drag on their miserable, unhappy lives, sick, weak and helpless, requiring the service of a physician from day to day, and from year to year, swallowing incalculable quantities of medicine, then, at last, when they have spent a joyless, painful life, unwillingly entering upon their journey to the unknown Land of the Hereafter? It is because their parents, as well as their more remote ancestors, have lived contrary to the laws and dictates of nature Nature gives us the sensation of hunger that we may take our food in proper season, in suitable quantities, and of a kind to promote strength, health and long life Thirst is given us that we may take the necessary liquid to preserve the fluids of the system, to keep the blood in a state suitable for circulation, so that it may carry the necessary nutriment to all the organs and tissues of the body that have been wasted by their functional activity, also to carry off the worn out parts that are no longer of any service, but, like foreign substances, set up an irritation and cause disease When man has exerted himself, either in labor or in amusement, he is overcome by lassitude, which serves as a warning that he should retire to rest in order to recuperate his overtaxed powers, and enable his tired brain, his strained nerves, and his overworked muscles to regain their tone, so that, next morning, refreshed and strengthened, he may resume his daily occupation While he is thus resting from the toils of the day—whether of the brain or muscles—the internal organism, the digestion, the assimilation, the rebuilding of the wasted and worn forces, both animal and intellectual, are being repaired, for that work goes on, even while the man or woman is taking rest in slumber In this way his powers are strengthened and his endurance prolonged To eat when we are hungry, to drink when we are thirsty, to sleep, or at least rest, when tired, these are the great, powerful recuperative agents which are employed by animals, savages, or children of nature, without thought, without reflection, just from natural instinct, undisturbed by the fashions of a modern civilization As a result of this mode of life, they are afflicted by few diseases, and an attack of illness is a rarity Unless killed by others, they die of senility, after having gone through the ordinary period of their life

How is it with the people who call themselves enlightened? Do they eat when they are hungry? Do they select the healthiest, the most nutritious diet? Do they take it in such quantities as will best preserve their health and the strength with which nature has endowed them? Do they drink merely to quench natural thirst, the fluidity of the blood, the natural softness and pliability of all parts of the body? Do they rest when they are fatigued, and retire to sleep in order that the tired organs can recuperate and the internal mechanism, quietly and undisturbed, prosecute its usual work of recuperation? No They do nothing of the kind They pay but little regard to nature, or her laws They take no cognizance of this beneficent healing power They live altogether in a conventional manner, eat at stated hours, fixed by fashion, three, four or five times a day, be they hungry or not The nutritious quality of the viands is not considered They tickle the palate with all sorts of delicacies, which tempt them to take more than is necessary for the growth and preservation of the natural powers This excessive feeding causes disturbances in the digestive apparatus, constipation or diarrhea, with catarrhal inflammation Now, when nature rebels against this abuse, and a loss of appetite ensues, they excite and stimulate the stomach with all sorts of condiments, causing irritation, with a temporary increase of the gastric fluid But now the inevitable takes place, the stomach and digestive tract lose their power through over-stimulation, just as the tired horse, when beaten by the driver, is goaded to greater exertions, until finally exhausted, it is unable to go any farther, and falls to the ground either dead or unfit for further exertion The civilized man drinks all sorts of stimulating and exciting beverages, which increase, instead of quench, his thirst Should thirst, however, fail, because an excessive quantity of the beverage has been taken, it is stimulated by highly seasoned food The brain is then excited, wit and repartee fly in brilliant corruscations, restraint is dissipated, and men who by nature are sober, dignified, thoughtful and modest, become wild, irrepressible and regardless of the opinion of others The color is heightened, the blood rises to the head, producing a congestion of the brain The period of healthy sleep passes away, and when at last the reveller is overwhelmed by drowsiness and yields to the persuasions of Morpheus, he does not enjoy the healthy sleep that recuperates the worn-out powers of mind and body, but sinks into a semi-coma, frequently tormented by awful nightmares and visions of horror to awake later in the day with a brain-splitting headache, which disqualifies him for a satisfactory performance of his duties This is the history of many a banquet partaken of by enlightened and highly cultivated gentlemen in civilized countries Of course, this description does not apply to every social gathering and banquet in our times but I have given an extreme case, to show to what our modern fashions sometimes lead us But without doubt, we all violate nature, more or less, in our mode of living, in eating, drinking and taking our rest Even though we are fully enlightened as to the danger to health and life, we are dragged into the vortex of fashion, and find it difficult, if not impossible, to extricate ourselves from it The health-, strength-, and life-giving sunlight is lost to us in a great measure, because we spend much of that time in sleep We live, we pursue our avocations and our pleasures by artificial light, in closed rooms, excluding the pure air which is of such importance to us in the preservation of health and strength, both of body and mind, eat unhealthy food, drink brain-destroying beverages Is it then a wonder that so many have pale, sallow complexions and weak, excitable nerves, which cause them to toss about in the bed, unable to sleep, to sit at the table without appetite, to suffer fatigue from the least exertion, to have the doctor in the house half the time?

Let us see now what the average physician, the mediocre, who regards his calling as a mere trade out of which he makes his living will do when called to such a patient Does he investigate the previous history, by the help of which he could discover the cause of the pathologic condition, thus having before him a picture of the origin, the extent, the course, the probable end of the disease, which would serve him as a safe guide to find ways and means to combat the evil? No This would be too laborious and perhaps a little beyond his acquired knowledge He may even fear to offend the patient or his family by trying to know more than they are willing to communicate, which would endanger his prospects of future emolument He therefore, treats the disease symptomatically, administering a variety of drugs, mostly of a poisonous nature Without inquiring into the cause of pain, he gives anodynes, such as morphin, cocain etc For asthenia he gives strychnia and other stimulating drugs For high temperature he gives depressing medicines, without inquiring into the cause of the fever or endeavoring to discover whether it is not the effort of nature to rid the system of some offending substance, in which case a little water, externally and internally applied, would assist nature and relieve the sufferer It is astonishing what horrible doses are administered by the superficial physician converting the stomach and alimentary canal into a chemic laboratory, thus gradually sapping the foundations of life

But let us leave this dreary theme, and see what the well-informed, the sensible the industrious, the conscientious physician will do He investigates the hereditary tendencies, the surrounding circumstances that may have exercised an influence in the causation of this particular disease He does this, regardless of the danger of giving offense, although he employs tact in the pursuit of his investigations After having made all the necessary inquiries, he enters upon a careful, thorough, and if necessary, prolonged physical examination in order to be sure of his diagnosis before entering upon the treatment If he discovers that nature is *too* weak to remove the evil, he assists with innocuous remedies, or even with strong ones if this is shown to be absolutely necessary But, if he finds that the natural powers are sufficient to accomplish the work, he does not intervene with a disturbing hand, but permits the healing power of nature, *vis medicatrix naturæ*, to have full sway

In the year 1866 I was called to a little girl, two years old, that was labouring under fearful convulsions The physicians in that section, none of the brightest had always ordered hot baths and anodynes for convulsions, regardless of the cause When I arrived, the child was seated in a hot bath and had taken several doses of paregoric The spasms had lasted for an hour when I arrived, and were getting worse instead of better I inquired if the child had been subject to such attack, to discover if it were a case of epilepsy The answer was negative Had it suffered from constipation or diarrhea? No, it had never been sick Had it eaten anything that might disagree with it? The parents, who were intelligent people, said they knew of nothing the child had eaten that could have put it in such a state On further examination I found no fever, no pulmonary trouble, no kidney or bladder disturbance But the epigastrium was terribly distended and hard, giving evidence of an extremely overloaded stomach I decided to empty it at once, as no time was to be lost Owing to its distension, the stomach was incapable of peristalsis Here, nature being unable to act, assistance became necessary I administered a simple emetic, followed by a cup of warm water, which induced copious emesis It was perfectly astounding to see what came out of that poor, afflicted stomach, bread, potatoes, cabbage, sweet potatoes, beef, ham, pickles, dried apples, etc There was enough in that infant's stomach to serve as a full meal for a hardy laborer On my inquiring, with some degree of acrimony, how this happened, the cook, a large, fat, colored woman, acknowledged that when she was eating her dinner in the kitchen, she seated the child on the table and encouraged it to eat of everything, enjoying the sport of seeing the greediness with which the little thing swallowed all that was given it, never thinking that it would do the child any harm I gave it several cups of warm water, until it ceased vomiting and the stomach was completely cleaned out, without the use of the stomach-pump No other treatment was necessary the convulsions never returned

I hope you will not be offended if I bore you with another example About twenty eight years ago, an old German shoemaker came to me and said his wife was terribly afflicted with her water Every attempt to urinate caused her such intense pain that she had to scream out She could not bear the least touch about her sexual organs without the most excruciating pain Dr A , he said, had treated her with washes, ointments and internal medication, for almost a year without ever examining her (Dr A , by the way, posed as a gynecologist) The old man said "I have made the doctor and his boys ninety dollar's worth of boots and shoes, and he holds me in his debt yet, while she is getting worse all the time Now I want you to come to my house, examine her carefully, and either cure her or kill her, for we can't live this way any longer " On examination, I found a caruncle at the orifice of the meatus urinarius, very red, about 3/16 of an inch in diameter, attached by a stem, looking very much like a ripe currant It was extremely sensitive to the touch, causing a scream every time the finger came in contact with it I took a pair of scissors, curved on the flat, out of my pocket-case and cut it off, touching the place with a stick of nitrate of silver The woman was cured, no further treatment being employed, except a simple alkaline remedy to correct the acidity of the urine, which only had to be continued for a short time

I could relate very many cases where the simplest remedies, judiciously applied, brought about the most astonishing results Many a time, after the routinist had tried all his best skill in giving strong medicines, and employing heroic treatment without benefit, yes, even with great injury to the patient, the hygienic physician, with the simplest remedies, has accomplished the most surprising cures The physician who has more regard for the welfare of his patient than for his own reputation as an elaborate therapeutist, will post himself thoroughly in physiology, or the natural working of the inner machinery of man, with pathology, the disturbance of this same machinery, which causes what we designate disease Is he fully cognizant of and well instructed in these two branches, does he possess good sound sense, acute and well-practiced powers of observation, intimate acquaintance with the best and safest remedial agents, a mind quick to take in the situation, and fertile in expedients in cases of emergency, and, in addition, an honorable and conscientious character? If so, then the patient may safely trust his health and life to him He will not poison him nor undermine his constitution, but will, if the disease is not a deadly one, restore him to health in the shortest possible time, and with the least expenditure of medicine For he relies upon nature and her diversified powers, as far as she is capable of doing the work herself, only intervening with artificial remedies when nature is too weak or perverted Let not, however, the layman be led to imagine that, because Nature's Therapy is recommended, he can dispense with the services of the physician, for, without such aid and advice, he would not only fail, but, by his ignorant interference, he would pervert the natural processes, and the patient would be in a worse condition than before Neither must the layman be permitted to think that the man who does not cram his patient, daily and hourly, with strong and poisonous drugs has failed in his duty and is not entitled to reward For it is a self evident fact which should, by every possible means, be impressed upon the general public, that the physician who can restore his patient to health without making his body the receptacle for great quantities of destructive poisons, is a much more intelligent and trustworthy medical adviser, and will more surely earn his reward, than the man who, without investigating the nature of the disease, fills the poor sufferer with strong medicines, regardless of the mischief this course may do in undermining the health and interfering with the future comfort of the victim of such heroic treatment

The Therapy of Nature, of which I have given a feeble and imperfect picture, will not suffice for all cases Nature can not remedy all errors nor repair all lesions, although a large majority might be prevented if man would always live according to nature Yet, since this is not the case, it is essential that other branches of therapeutics should be closely studied and skillfully practiced Heroic treatment is sometimes indispensable, and the surgeon's knife must now and then be called into requisition Yet the study of nature and the employment of her methods in medical practice should always hold the highest place in our therapy

---

HYGIENIC MANAGEMENT OF CHILDREN

Presented to the Section on Physiology and Dietetics, at the Forty-ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY A E MILLER, M D

NEEDHAM MASS

This subject is so broad that one hardly knows where to begin To have children as perfect as possible we should begin several generations back The Mosaic statement, "visiting the iniquities of the fathers upon the children even unto the third and fourth generation," is a physical fact, which applies no less to the mothers than to the fathers If parents would have the best possible children, they should get themselves in the best condition previous to the begetting of the children

It is a humiliating fact that the most important act of a man's life is too often accidental In the breeding of the lower animals the greatest care is used If a farmer is breeding for milk, beef, or beauty, he selects the parent stock with the greatest care, with an eye to the particular point to which he is building It is interesting to note with what care the horse-breeder who is breeding for speed and other fine points selects the animals from which he is to breed Not only must the sire and dam be all right, but he looks up the pedigree for several generations back to make sure that no trick or taint of blood has existed in the progenitors which may show in the later generation He is particular that both parents be in the best possible condition at the time of conception, and that the mother be kept in good condition during the period of gestation

With care, improvements may be made in all breeding Note the increase in speed of the horse What would have been considered a fast horse fifty years since would be thought a slow animal now Even with the hen what wonders have been wrought, both in egg production and marks of beauty The same is true with fruits and flowers What large, fine, delicious flavored fruit has been developed from the small, inferior wild progenitors With flowers what delicate tints and rare perfumes has intelligent cultivation produced

With all these facts before us as object-lessons, is it not humiliating to see so little improvement in the human animal? Small, deformed, diseased children may be seen all around us, who, if they live, will develop into inferior men and women What are we as a body of thinking, scientific men and women doing to remedy this great evil? Perhaps you will say What has this to do with the management of children? But how can we manage children unless we have them to manage, and it is quite important that we have the right kind to begin with Take a wild crab tree, and by judicious pruning, we can improve its appearance, but the result of our labors will be unsatisfactory On the contrary, take a fine, improved Bartlett pear-tree and a little care will yield us in return the most delicious fruit

Having a good child to begin with, the first thing to claim our attention is the food The most natural food is the milk of the mother But to have this food in a proper condition the mother should be in good health, properly nourished, and free from annoyances which will excite and irritate the nervous system Milk producers understand the great importance of proper food and drink in determining the quality and quantity of the milk, and also the importance of quiet, gentle treatment for the cow The same is true of the nursing mother Plain food and drink with gentle exercise and freedom from nervous excitement will give the best results It is well known that the improper food and drink of the mother at irregular hours is the cause of many of the ills of the nursing child Often a fit of anger on the part of the mother will so affect the milk as to cause disease of the child If from any cause food other than the milk of the mother is to be given to the child, great care should be used in selecting and preparing it

A great variety of substitute foods have been put upon the market, many of which are very good I have seen fine, healthy children, whose principal food was Malted Milk or Mellin's Food or some similar preparation As a rule, I prefer the milk of a healthy cow The specific gravity of human milk varies from 1 028 to 1 036, that of cow's milk 1 028 to 1 034 The chemic composition of milk is

	Fats	Sugar	Proteids	Ash
Human Milk	3 5	6 5	1 6	0 25
Cows' Milk	3 9	4 7	3 7	0 7

As will be seen by the analysis, the milk of a good cow is too rich in proteids and deficient in sugar for the young child We usually add an equal quantity of soft or distilled water, and also a little sugar If the quality of the milk is poor in casein and butter, we add less water If it is rich, as in the case of the Jersey cow, we add more water As the child grows older, and sleeps less and exercises more, an increase of proteids is demanded for the development of the bones and muscles, consequently we add less and less water, until the milk may be given undiluted As a rule, good milk or some of the prepared foods will be sufficient for the first year

Many mothers derange the digestive organs of the child by giving it bread and other starchy foods too young As the salivary glands of the infant are not sufficiently active for their secretions to aid in digestion for the first six months, and as the saliva aids in converting starch into sugar, it is evident that no starchy food should be given until after this period After the salivary glands are sufficiently active the child may have bread and mashed potatoes in moderation When the teeth are sufficiently developed to masticate the food, fruit and vegetables may be given with advantage As a rule the child should have no meat until after the first year Mothers and nurses often feed children meat when only a few months old This makes them more excitable My observation has been that children who are not fed meat until a year or two of age, are less excitable and more healthy, other circumstances being the same Strong tea and coffee often make the infant wakeful, fretful and irritable, and sometimes cause constipation they may be taken through the mother s milk or may be given to the child direct Many nurses let the child sip strong tea and coffee from their cup when they are drinking it this should never be done, it is one great cause of nervousness in the child

Regularity in the hours of feeding is important and should be established at an early age In rare cases the child may be fed every two hours, usually every three hours is better, and as the child grows older and is able to take more food at a time it may be fed less and less often, but all changes should be regular Cleanliness and clothing, except with the very ignorant, usually receive proper attention

The temperature of the rooms of the mother and child should be kept even Some nurses let the room get too warm, then a free perspiration is produced which makes the patient more sensitive, and with the cooling of the room or the admission of fresh air, a chill is felt The room should be large enough that a proper supply of fresh air may be admitted without the patient feeling a draught A cubic space of 1000 feet is desirable for each individual The average composition of pure atmospheric air per cent per volume is O 20 96, N 79, CO , 04 In addition, there may be traces of ammonia, mineral salts, and organic matters A healthy, average sized man, at rest, breathes at the rate of seventeen respirations per minute At each respiration about 30 5 cubic feet of air pass in and out of his lungs The composition of this respired air is roughly estimated as follows O 16 96, N 79, and CO_2 4 04 per cent The air in the lungs loses on the average 4 per cent of O and gains 1 per cent of CO , while the N remains unchanged We should never allow the air in the room to contain more than 6 volumes of CO in 1000 The Boston building law requires every hall, auditorium or room of every building used as a schoolhouse, factory, theater or place of public assembly or entertainment, to have in continuous operation, while occupied, a system of ventilation so contrived as to provide 30 cubic feet per minute of outer air for each individual and for each light other than an electric light

Sunlight is essential to the healthy development of the child Plants and animals deprived of sunlight become pale and sickly The florist understands the importance of sunlight in giving the finest tints to his flowers Many a child is pale and sickly because it is kept indoors and deprived of sunlight and pure air If the weather is too severe for the child to go out, give it a sunny room for a playroom If too young or too feeble to play, keep it where the sun will shine on it a part of the time at least The love of liquor, which leads to drunkenness, is often born with the child, stamped by the mother during the period of gestation because of the bitters and other alcoholic mixtures which she takes for fancied ills at this time It may also be acquired by the dosing with cordials, essences slings etc, which are often given during the period of infancy Many nurses administer hot whisky whenever the child has indigestion or [illegible] little [illegible] some [illegible] cases the family p[illegible] in [illegible] hot whisky [illegible] These [illegible] man has his sick spells very often, and at times he is in such mortal fear of the difficulty that he takes the medicine to ward off the dreaded malady Men have often told me that they had no love for liquor, in fact did not know the taste of the different alcoholic mixtures until it was prescribed by the physician A young man who became a confirmed drunkard told me not long since that the family doctor was the cause of his downfall When quite a young man the doctor, on meeting him, would often say, "Fred, you don't look well," or, "you have a bad cold, come into the drugstore and have a little brandy with me " Parents often complain that children are deceptive, disrespectful and falsify Is this to be wondered at, when, as in some families, the first lessons given the children are in this direction? Parents often dispute and call each other harsh names in the presence of the child Soon the child thinks it can use the same language to the parents that they use to each other The mother, in the presence of the child, talks about her neighbors and declares that she never wants to see them again But when they do call she is all smiles, and urges them to stay longer and to call often These are lessons which soon bear fruit in the child As to falsehood, how often the mother says when administering bitter medicine to the child "This is good, it is sweet, take it, just take this one spoonful and you need not take any more " In an hour a similar dose is repeated with the same story Will the child believe the mother after this? If the mother can lie to and deceive the child the child will practice the same on the mother Perhaps an unwelcome caller is seen coming and the child is sent to the door to say, "Mother is not at home "

The brain should not be developed too rapidly Many a child has the brain developed at the expense of the body The first care should be to build up a good, strong, healthy body As a rule the child should not be sent to school under six years of age Kindergarten exercises, under the care of a sensible teacher, may begin much earlier In most of the public schools the children have too many studies and too long lessons Many girls in the high school break down from excess of mental work and become invalids or fill premature graves Many a fond mother mourns the loss of a brilliant daughter and sees the folly of overcrowding in school work when it is too late Brilliant mentality requires an active, healthy brain which must have a strong body to support it A healthy, growing tree must have good roots Good digestion is as important to the active growing child or to the pupil in the public school as good roots are to the tree True, some children who have slender bodies make fair progress in school work, but with a good body their record would be much better

If parents and guardians would give more attention to the strong healthy development of the body of the child and less to the fashionable follies of life we would have a much better class of men and women

DISCUSSION

Dr E Stuver—No question merits our earnest attention more than the one so ably presented by the writer of the paper If we can not go back a couple of hundred years, as recommended by Dr Oliver Wendell Holmes, to lay a solid physical foundation for our own children and those who come under our professional care, it is at least our duty to use every means in our power to assist them in attaining a strong and symmetric physical and mental development after they do arrive in the world In the first place I desire to protest in the strongest possible manner against the deleterious practice of administering stimulants and narcotic poisons to infants In many cases young children suffer from thirst, and plain cold water, which, by the way, should be given regularly, will do them more good than all the paregoric or soothing cordials that can be given to them Regularity in feeding is one of the most important matters in securing the healthy development of children, and when this course is adopted immediately after birth it is very easy to follow, and in my experience has given most excellent results If with regularity is conjoined the proper kind of a dietary, an abundance of pure, fresh air, outdoor exercise and plenty of sleep, children thrive surprisingly Nor are the good effects confined to the children alone, but the parents, through uninterrupted sleep at night and freedom from worry and care, largely share in the beneficent results Give the children pure food, pure air, plenty of exercise and sleep and protect them against stimulants and narcotic poisons and we can confidently look the future in the face with the assurance that they will develop their best possibilities

---

MANGANESE IN THE TREATMENT OF DYSMENORRHEA

BY CHARLES O'DONOVAN, A M , M D

BALTIMORE, MD

When the athletic young woman of the present day first made her appearance and began to make the fad popular, physicians thought that with the changed conditions of her life would come such an improvement in her general health that most of her minor ailments would disappear of themselves Of these I wish, for the present, to consider dysmenorrhea as the chief, and the one that appeared to present the best hope of cure Sermons innumerable had been preached against the high-heeled shoes and the tight lacing of the generation of girls just gone by, attributing to these pernicious influences most of the ills that afflicted women, and now that no heels, and waists of nature's own proportions had become fashionable, it was reasonable to suppose that the attendant train of evils would also disappear with their causes But it did not follow, in spite of riding, walking, tennis, bicycling, and finally golf, our girls continue to suffer, as did their mothers, from menstrual pains, frequently of great severity

When tight lacing was in vogue, the cause of this dysmenorrhea was so often some displacement of the uterus, that many claimed for the pain a purely physical origin, and endeavored to relieve it by correcting the malposition mechanically Retroversions and retroflexions were relieved often by one or other of the many pessaries, anteflexions were operated upon in many ways, sometimes with complete relief, sometimes without ameliorating the pain in the slightest possible degree

With the development of the athletic age it was discovered that bad flexions became much less common, but the frequency and severity of dysmenorrhea were but little changed Then came those who ascribed most of the pain to ovarian influence, and the fury for removing ovaries spread over the land Against this insanity arose everywhere the protests of conservative physicians who thought it better to give some time to treatment of these cases before resorting to the knife The operating gynecologists seemed to forget that medicines existed, and insisted upon surgery as the only hope Statistics showing the innocuousness of the operation were offered in support of that view, losing sight of the importance of the ovary to the female economy Many physicians, however, held back, preferring to give drugs a fair trial, and too often it was found that medicines relieved perfectly cases that had been about to lose their ovaries, but which for some reason had slipped out of the hands of the operators Cases which submitted to vaginal examination revealed often no discoverable physical cause for the severe pains of each menstrual epoch, and were frequently benefited to such an extent by medicines that no further question of operation was possible Many young women refused examination altogether and were given remedies empirically, because similar sufferers had been so relieved, and often with complete success So we may say safely now that young women are not likely to be called upon to select one of several serious operations before a thorough course of medicine has been tried

Too many drugs have been vaunted as specifics in these disorders, showing by this that no one will give relief always Sedatives and narcotics will relieve temporarily, but at the expense of leading in many cases to a confirmed habit, so that opiates and the coal-tar derivatives should rarely be used, especially as our modern women are very cunning and soon learn to use drugs of themselves without asking for a physician's leave If this is to be effected, we must provide them with what is harmless This excludes also alcohol, with which thousands of women are drugged into semi consciousness every month

The great majority of cases of dysmenorrhea occur in anemic young women, who require iron, and frequently under its influence they regain their proper condition of blood and need no other medicine This remedy, persisted in for a reasonable period, say six months in many cases, to be used again if the same symptoms reappear, is the most important in the treatment of this ailment But there are many cases in which iron seems not to be required, from the excellent general health and the rich florid color of the skin, and yet the return of each menstrual period means a new period of agony to a woman who is apparently in perfect health Between the periods nothing is complained of, but every month the trouble recurs, and each month it grows worse Such cases are met with every day, in all classes of society—among the neurotic young women of high station and luxurious surroundings as well as among sewing women or worn-out shop girls Nourishment and exercise have no effect upon the dysmenorrhea, they suffer as well during the summer holidays at the seashore or in the country as during the winter fatigues either of social gayety or of paid labor

The cases to which I refer do not require iron, and if it is given to them experimentally they derive no benefit from it, or may even be made more uncomfortable In very many of these cases I have obtained excellent results from the use of manganese, generally used alone, but sometimes with viburnum I speak now of virgins, who should never be subjected to the indignity of a vaginal examination except as a last resort and after a fair trial of drugs How these women escape becoming drunkards is a mystery to me, for they invariably have been taught by sympathizing companions that some alcoholic intoxicant, oftenest gin or whisky, is the only available medicine for relief at such times It does not relieve, except in the sense of deadening their sensibility and thus giving time for the dysmenorrhea to pass away In treating these cases, I have tried a number of remedies, but have reached the conclusion that manganese is to be depended upon far more than any other, and often gives such results as seem truly remarkable I have today seen a young woman, otherwise healthy and strong, slender but excellently proportioned, whose activity and energy denote apparently perfect health, but who used to spend the first day of her period every month in a perfect agony of pain, tossing from side to side in her bed, vomiting every few minutes, and crying out with each return of her cramp Alcohol gave her no relief till she was stupefied, and various remedies that she had tried were useless, or so powerful that she would require a couple of days to recover from their effects She obtained perfect relief by taking pills of manganese, iron and hyoscyamus for a week before each period, and became so well that she ceased treatment, and paid for her carelessness by a return of her dysmenorrhea nearly as bad as ever But it may have been the iron or the hyoscyamus She had been given iron freely before the manganese was added, but without result, and the amount of hyoscyamus was too small—1/3 grain of the extract—to have any such effect In each pill were two grains of black oxid of manganese, and this I consider the efficient drug

This case is but one of many that I could quote from notes, few as bad, but many approaching it in severity, that I have watched for longer or shorter periods during the past ten years More extended records can be found in papers on the subject that I have published in the *Medical News* of April 6, 1889, and Nov 27, 1897, where several very convincing cases are related The recent histories of these young women continue to bear out the good opinion originally obtained of manganese, for it has proven itself to be a remedy that does good continuously in such cases as it benefits, not losing its effect with prolonged use but, on the contrary, becoming more and more satisfactory in each succeeding month

The habit of dysmenorrhea tends to intensify itself in neglected cases, growing worse monthly, and harder to relieve, beginning early in the menstrual life and rapidly fastening upon the sufferer such a fear of the recurring pain that life becomes a burden For this reason it is advisable that treatment should be instituted at as early a period as possible Dysmenorrhea does not disappear of itself, it always grows worse if let alone Therefore it is very bad practice to put off the mother of a young girl whose early periods already cause her great pain, by telling her that time will bring relief It will not, on the contrary, we have every reason to believe that each month will, if let alone, be worse than the last But the ardor of the operating gynecologist has been such that many mothers, from fear, refrain from mentioning their daughters' ailment It is in such cases that manganese offers the best means of relief and cure It is extremely efficient in those young women whose dysmenorrhea seems due to functional neuralgia, beginning almost with the establishment of menstruation If administered early in the course of the disease great relief is experienced, if persisted in, the habit is, in many cases readily broken up and the health of the sufferer saved from impairment Such young girls should never be examined, even by the rectum, unless there is very positive evidence of serious local inflammation, until manganese has been given a full trial

After the habit of dysmenorrhea has been fully established for years, in older women it is a more difficult matter to destroy it, but in many instances it can be done The most important thing to remember is that one should not be too soon discouraged If a trifling improvement can be seen after two or three months of constant use of manganese it means that great relief can be given by it One need not despair until four or five periods have passed with no benefit from the drug In many cases it is not necessary to wait so long If the case is a suitable one, the first succeeding period will be notably easier, and after that little or no pain will occur during the administration of the remedy

Manganese is offered in various forms, but I have found the black oxid the most satisfactory It should be given in doses of two grains, by itself or in combination with iron or other adjuvants, about an hour after each meal It may be used for an indefinite time without any ill effect, and should be given constantly until its efficiency or inefficiency shall have become manifest If benefit is obtained at once, I then order it to be taken for two weeks before the next period, if that has been nearly painless, it is given during one week before the following period In successful cases, this is usually enough, and taking the drug during one week just before menstruation insures a painless period No deleterious effects of any kind follow its use in this manner It should be continued indefinitely, usually after a few months the patient feels cured and stops taking the pills, but this is apt to cause a return of the dysmenorrhea, especially in those women who have suffered for any length of time In young girls the habit seems to be more readily destroyed, and the general systemic improvement renders the cure permanent One must not expect cure, or even relief, in all cases that present themselves, for many will obtain no benefit whatever, but many others will be benefited by manganese after other remedies have been tried unsuccessfully, and when there seemed nothing left to hope for but the sacrifice of the ovaries or some other surgical treatment

10 E Read Street

SOME EXPRESSIONS OF ABORTIVE ATTEMPTS AT INSTRUMENTAL ABORTION

BY FRANK A STAHL, M D
Instructor of Obstetrics Rush Medical College
CHICAGO

Without doubt, of all the cavities of the gynecēan body not intended by nature to be invaded with impunity, the impregnated uterine cavity enjoys the distinction of being the most often explored This is so, not only because of the many delicate perplexities ofttimes presented for differential diagnosis, but also because of the many other less scientific, but ethically regarded purposes

Most often abortion, with its sequelæ, follows these instrumental invasions Not seldom, and in the hands of skilled operators, these attempts and even repeated attempts to induce abortion prove abortive, much to the surprise of the patient and discomfiture of the operator, the reaction caused by the attempts passes off and pregnancy continues In a few cases trauma and infection are caused by these attempts, yet pregnancy continues, but sooner or later and before full term is attained, dangerous inflammatory and septic reaction follow from these traumatisms and infection, which require immediate interruption of the pregnancy to preserve maternal life Some five years ago[1] I had such a case, where there was a history of repeated instrumental invasion of the impregnated cavity, with traumata and sepsis, but without interruption to pregnancy To save life it was necessary to interrupt the pregnancy

Case 1—Mrs X , 5 ft 6 in , 125 pounds, housewife, temperament nervous, easily hysteric First pregnancy, normal labor, boy now 8 years old, second pregnancy, normal labor, boy now 6¾ years old Subsequent pregnancy successfully evaded until present case, when in August with usual subjective symptoms of menstrual expression, there was no sign of menstruation To persuade the flow the patient used steam and hot water, sitz baths, douches, much and various medication, all without the hoped for result Growing desperate, two weeks after regular period a button hook was employed (Fig 1A), the immediate result being some flow, ceasing after ten minutes, accompanied with backache and bearing down pain of some two hours' duration, but gradually subsiding One afternoon, coming from a professional consultation, during which a sound (Fig 1B) had been passed and actively moved about, the patient, clad in light summer garments, was caught in a severe rainstorm and thoroughly chilled Reaching home she was taken with a violent chill, followed by fever, with sensations of warmth and fulness in the pelvic tissues, with sense of bearing down pain , no signs of blood

During September the patient experienced at irregular times, sensations of chill followed by fever, nausea, vomiting, and loss of appetite, natural nervousness increased by the thought that she was yet pregnant, notwithstanding the much medication and that the probe had been passed upon three different occasions, to encourage an outlet for the so called retention At night especially, she was troubled with unpleasant dreams, high temperature, chills and flightiness, indicative of mild deliria These were attributed to excessive nervousness and hysteria Unknown to the usual attendant, another was called in one evening during such a slight delirium, who believed there was retention from pregnancy, with sepsis, and proceeded with instruments—which seemed very unclean—to encourage bringing away what was there He seemed to stretch something (probably the cervix only), causing a slight appearance of blood but not much pain , he called but twice

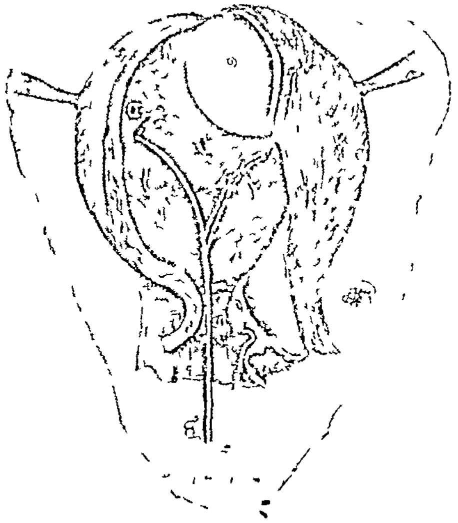


Fig 1—Uterus with ovum of about four weeks a button hook, causing lacerations about cervix b probe causing lacerations of the decidua vera at d c gestation sac

When increased pains and nervous disturbances produced by this stretching had quieted, the patient, to encourage the treatment, would lift heavy chairs boxes and weights, but without effect Toward the beginning of November, attendant No 1 suggested that she be removed to the hospital as she was developing typhoid fever, as at this time, beside spasmodic pains with irregular chills and fever, she was seized with vertigo upon the least exertion, followed by loss of consciousness Thereupon attendant No 3 was called, who from the patient's account, suggested that there might be extrauterine pregnancy, though he had not examined her, and advised immediate removal to the hospital for chloroform examination and treatment Instead of complying, the husband removed the patient to another hospital, where attendant No 4 diagnosed normal pregnancy, with hysteria, accusing the patient of desiring to come there for the express purpose of having the uterus emptied While here the marked pelvic pains and fullness were much relieved by hot fomentations to the abdomen

---

[1] Meeting this patient a short time ago and hearing some compliment extended her because of her splendid physical appearance I requested and obtained the pleasure of writing her up, hence the ' years ago "

The patient left hospital No 1 after six days The first night at home she developed such fever and delirium that the husband removed her the next day to hospital No 2, where attendant No 3 was in attendance Here chloroform narcosis *established a normally situated pregnancy ovaries enlarged* and swollen, with excessive nervousness She remained here two weeks, during the latter part of the second week she developed an inflammation of the rectum After the second week, not improving, the patient again returned home, where attendant No 5 was called in, who believed the case one of pregnancy with some serious complication, and called but once Attendant No 6, upon examination, recognized the rectal abscess The rectal abscess broke within four days, pus and blood coming away with the frequent stools Thanks to the rupture of the rectal abscess, attendant No 6 found the patient much relieved during the two following days, the hope being extended to her that her trouble would soon cease But after these *two days her nervousness, fainting* spells, irregular chills and fever pelvic pain with dysuria, returned with gradual increase Attendant No 6 now said that there must be something there (in connection with the pregnancy) which must come away or be brought away, else she would die, but he did not wish to continue the case, he did not make a diagnosis Thus the case had continued from September, with its various probings and treatments, with its irregular manifestations of hysteria, nausea, vomiting, loss of appetite, marked thirst, chills, fever, pelvic pain and heat with gradual exhaustion and emaciation

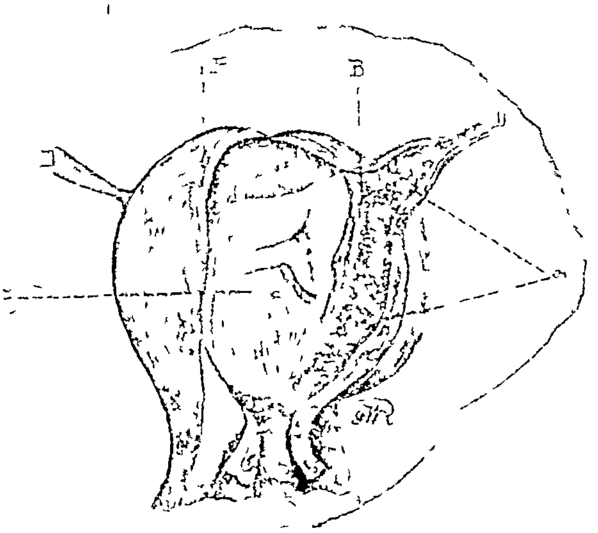


Fig 2 —Uterus with fetus of about the fourth and a half month a pyometro-salpinx b fetal membrane c fetus, d left tube e uterine wall, normal

About the middle of December I saw the case for the first time and diagnosed an intrauterine pregnancy (Fig 2C) with a pyometra (Fig 2A) extending up into the left tube (Fig 2D) a pyometro salpinx (Fig 2A D) with chronic systemic intoxication from septic absorption, infection having occurred most probably from the repeated and ineffectual attempts at the induction of abortion (Fig 1, A B D) There was emaciation with *cachetic appearance, anemic murmurs* and evening temperature, with morning drop Examination revealed an enlarged four to five months' pregnant uterus with a readily outlined bulging of its left side apparently extending up and into the tube (Fig 2, A D) gradually diminishing in size toward the outer third of the tube The right side of the uterus and pelvis were normal, and not sensitive to the touch, but the left side of the uterus, continuing up to and along the tube, was very sensitive, was tumefied and gave a sensation of a purulent collection The cervix was firm and closed There were irregular bearing down pains quite strong in character, but not sufficient to cause dilatation of the os or to rupture the pyometro salpinx Calomel was administered and a 3 per cent carbolic douche ordered, t i d thinking that from the consistency of the abscess and the well marked uterine pains the pyometro salpinx would thereby be encouraged to find exit through the cervix if so, pregnancy might continue to term After seven days of this treatment the pyometro salpinx broke through the cervix, pus, blood and clots appearing in greater quantities than in the case of the abscess in the rectum Relief again followed and I hoped that pregnancy might now continue without further difficulty, therefore I did not rupture the gestation sac, there continued a slight flow of pus and mucus, but again after the third day the old complex of symptoms reappeared and increased, notwithstanding the decreased sensitiveness of the uterus and tube of the left side This I attributed to the irritation between the abscess walls and the growing gestation sac (Fig 2B A D) and the retention of *abscess contents above, caused by the pressure of the gestation* sac upon the collapsed abscess uterine walls below, thereby cutting off drainage Therefore I decided to induce premature labor and empty the uterus

With Dr Barnard s assistance the patient was chloroformed She took chloroform very unkindly and was very weak notwithstanding hypodermic stimulating injections, so much so that we felt it would be better not to conclude the emptying of the uterus, but to rest satisfied with dilatation of the cervix and breaking down of the gestation sac and remain ready for any emergency, should one arise With considerable difficulty she was revived The pains reappeared, but were now more normal in character, the contractions continued to increase in strength and rhythm, until after thirty six hours, a four and a half months' macerated fetus was expelled without much pain, the patient having been given codein

After a few hours the exceedingly foul smelling secundines were expelled without assistance Relief was so great that the patient immediately fell into a profound slumber from which she awoke with the cry of, "Where am I? Please give me something to eat," the first craving for food in several months No drainage Convalescence was slow, but perfectly established by April

Had she not been in so low a state the uterus would have been emptied at once From this distance it may seem to have been more judicious to have assumed the risk and have wholly emptied the uterus at the time I think I would do so should I have another case under like extreme conditions Yet that the uterus was not wholly emptied was not without its advantages, as with the return of consciousness she appreciated more and more perfectly the increasing severity of the growing uterine contractions The pain seemed to act as a stimulant, arousing the system to react with splendid physical effect, as was so beautifully shown in the subsequent course of the case

It reminded me very much of one of my first tracheotomies It was an emergency case in diphtheria where I had but my pocket-case with me Picking the unconscious child from off the bed, laying her upon the table, in cutting I noticed that no reaction ensued until I was down upon the trachea, and then only was it necessary to hold her from struggling when the tracheal rings were cut While waiting for the tracheal tubes to come from my office (twenty five minutes), I held the artificial rima apart with my pocket-case dressing forceps, and observed that when holding forceps still in keeping the rima open, no reaction, such as increased respiration or cough followed, but when the forceps were moved, causing pain, the little one reacted with increased physical effect, so that by the time the canula arrived the trachea was comparatively clear and the breathing much freer and more regular She made an early recovery and is alive and well

Among other striking features this case amply testifies to what extremes, even repeated attempts and long continued mimic intentions may be carried to induce abortion yet successfully neutralized by the physiologic resistance of the part locally and by the system generally Here was a case of uninterrupted intrauterine pregnancy, notwithstanding the repeated and severe attempts to induce abortion with infection from the traumatism dating probably from the application of the button-hook increased by the chill of the rainstorm the repeated active probings and the various treatments Infection gave rise to [illegible] septic purulent deciduitis metritis, cellulitis of the left side (Fig 2), an able is, that pregnancy should have continued without interruption, the gestation sac, having escaped the intended injuries, apparently acted as a bar (Fig 2 B) to the further extension of the inflammatory process to the other side

Another instructive feature of this case is that the unusual and exaggerated nervousness was regarded as only hysteric in nature It is true the patient was of a hysteric temperament, but such a spasmodically exaggerated form so long continued, characterized by intervals of normal serenity, yet with patient exhibiting irregular chills, fever, nausea, vomiting, tenderness and warm pelvic fullness during the whole time, with such a history of traumatism and intended abortion, it seems to me that such a complex of symptoms might have suggested another more active cause for this increased apparently hysteric manifestation, viz, the systemic intoxication from the local septic process In proof of this when the rectal abscess broke, when the pyometro-salpinx emptied itself through the cervix, there followed an improvement in the physical as well as in the mental condition of the patient, but only a temporary improvement, as the irritating cause, the pyometro-salpinx, was still active Emptying the uterus, all was changed, her long-continued dulled but exaggerated mental state immediately cleared up, locally, douching alone cleared away the retention products from the abscess and post-partum walls Convalescence, though slow, was perfect

Another very interesting feature of this case is that, when the uterus became emptied of fetus and secundines and pyometro-salpinx, in the collapse of the uterine walls following this emptying, the freshly denuded gestational walls came into close approximation with the septically infected and long-continued pyogenetically inclined abscess walls of the other side of the uterus, and of that tube (Fig 2E–AD), yet no new infection occurred on the side of the freshly denuded surfaces On the contrary, the local condition gave little more trouble than after an ordinary labor or a benign pelvic abscess, where opening alone will suffice to rapidly restore

Similar cases of repeated attempts at the induction of abortion with failure, are reported by Dr H F Vickery of Boston and Professor Fritsch of Halle As these cases present points of interest of more than passing notice it may not be amiss to introduce here short extracts

In the *Boston Medical and Surgical Journal* of October, 1890, p 413, Dr Vickery reports under the head of "A Much Enduring Fetus," as follows

POINTS OF INTEREST

1 Conception occurred while mother was nursing a child only 6–8 weeks old

2 That pregnancy should persist despite so many adverse influences In November, baby one month old, profuse menstrual flow December, not appearing, took tansy tea, turpentine, catheter daily effort for three weeks Toward end of January thought she had succeeded, constant metorrhagiæ through February to middle of March, obliged to call her physician, who mitigated the flow by exhibiting ergot, flow continued Then blunt wire curette for what had been regarded as retained placenta, followed by swabbing inside of womb with Churchill's tincture of iodin It is probable that this operation did not affect more than the cervix, flow continuing douched with gallon of hot water t i d for four days, still hemorrhage persisted Patient now profoundly anemic V invited to see her and remove obstinate placenta V found fundus reaching nearly to the umbilicus—induced labor and emptied uterus—convalescence uninterrupted but slow Fetus 5 6 months

3 That the woman escaped sepsis or any permanent injury

In the *Cbl fur Gynekologie*, 1880, p 197, there appears a case of Professor Fritsch reported under the head of "Ein Hartnäckiges Ei" (referred to him and reported by Dr Stumf, *Cent f Gyn*, 1879, p 457), as follows

PREVIOUS HISTORY

A primipara with rachitic pelvis was delivered (December 1877) of a breech presentation fetus, with the assistance of a blunt hook, after much difficulty A vesico vaginal fistula soon after developed, which was operated on by Professor Fritsch three different times, finally, in the autumn of 1879, perfect vesical function was attained

PRESENT CASE

In 1879 the patient was again pregnant Consultation of a local physician with Prof F determined that because of 1, rachitic pelvis, 2, danger of rupture of a so hardly won vesico vaginal cicatrix it was suggested that abortion be induced, to which the patient responded with the request that it be done as soon as possible Oct 20, 1879, a sound was passed by the local physician Considerable pain was felt when the point of the sound entered the os, a laminaria tent was then passed into the cervix and the vagina tamponed When the tampon and tent were removed there was hemorrhage and it was supposed that the ovum had come away in the clot The patient not being satisfied that the uterus had been emptied, fourteen days after she traveled to Professor Halle, who passed a sound into the uterine cavity and moved it about in every direction Some blood came away, yet pregnancy continued Jan 14, 1890, a bougie was introduced into the uterus and left there, and abortion of a normally developed four months' fetus resulted

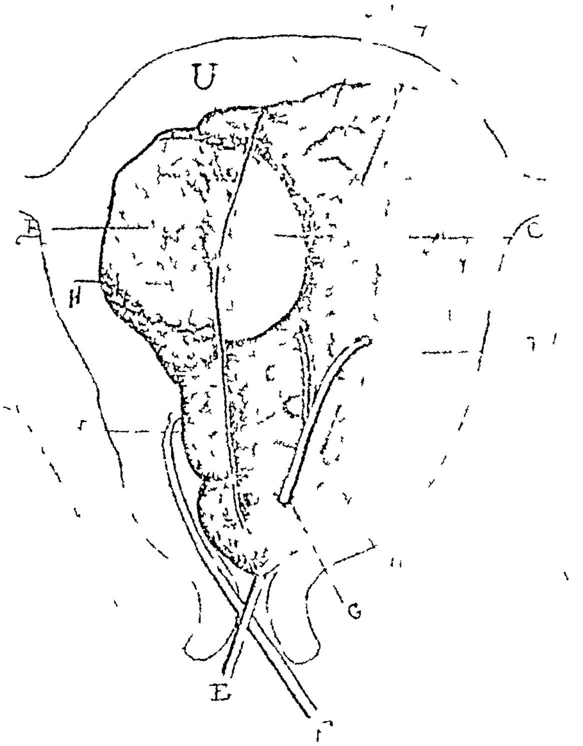


Fig 3—Perfect decidual cast from eight to nine weeks abortion, U uterus (schematic) Decidual cast a, decidua vera a¹, decidua vera cut open and reflected b, decidua serotina c, gestation sac, d, perioneal cavity containing ovum e and f, invading probes, g, where probe e has ruptured through decidua vera h fetus

The ease with which such instrumentation may fail of producing abortion may readily be appreciated by examining Fig 3, a perfect decidual cast of an eight to nine week pregnancy, containing the gestation sac (C) still unruptured To induce abortion the usual method is to separate or to rupture the decidua vera (A G) and the fetal membrane outlining the gestation sac (C) This is done by passing the probe (E F) catheter, or other instrument alongside of or through the decidua vera (A G) and into the *perioneal*[1] cavity (D), or by the twisting process the probe may be carried to or about the fundus uteri, passing through the decidua vera there, but often missing the gestation sac (as in Fritsch's, Vickery's and present case) The mucoid perioneal or decidual fluid comes away, which is incorrectly regarded as the liquor amnii, some blood flows, followed by pain and other reflex signs and symptoms, but the local physiologic resistance is at times, as in the present cases, so great that it neutralizes the shock of the malignant attempt and, notwithstanding traumatism and perhaps infection, pregnancy continues uninterrupted Hence the ease with which operators are frequently deceived into thinking their attempts at abortion successful The uterus is repeatedly entered and actively sounded, reflex signs and symptoms arise but soon subside, yet pregnancy continues Again, and not seldom, this will explain the unfortunately not few cases of continued and interrupted pregnancies accompanied with complications of a so-called "peculiar type" of enteric fever, peritonitis and typho peritonitis, with their fearful morbidity and mortality, which follow in the wake of these attempts at abortion

Again, it is not difficult to understand how these attempts at abortion may occasionally give rise to malformations or monstrosities The end of the probe or other invading instrument is carried into the perioneal cavity The point of the extremity may strike the gestation sac, and often does Where destruction of the sac occurs, death of the embryo, as a rule, follows—abortion usually does, in some few cases, retention is the case The retention may disappear through absorption or casting off by necrosis, or the retention may undergo other changes

But in some cases the resistance of the membranes of the gestation sac neutralizes the shock of the invading stroke, or again, the invading stroke may have been an oblique one and thus have glanced off In both cases the effect would be the same, the membranes would remain intact, perhaps, showing no trace whatever of the traumatic intent Yet the embryo (Fig 3 H) within the gestation sac may not be so fortunate as to escape evil consequences Though the membranes of the sac remain unaffected the potentialities of the abortion stroke may have continued on and been expended upon the embryo, causing trauma, resulting in inflammation or death of a few cells, or of a part or of the whole of the embryo —a condition analogous in later life to the trauma often found in the abdominal cavity following blows, falls, etc, though the effect of the force has left no trace upon the abdominal walls, a part in the abdominal cavity often shows a serious lesion The effect of inflammation or destruction of a few cells even, during the early stage of embryonic life as the cells during this period possess the function of germinal cells, may result at a later period in a serious developmental malformation Writing upon the subject of the genesis of monstrosities and malformations, Ziegler says

> Malformations may be of two kinds On the one hand, the ovum may have inherited a tendency to abnormal growth on the other, a normal embryo may in the course of development be affected by disturbing influences from without which check its progress toward the perfectly developed form Experience indicates that both events occur The recurrence of hereditary malformations in the family, such as an excess or absence of fingers, toes, etc , can only be explained by the supposition that the abnormal tendency exists from the first in the embryo, having been transmitted from one or the other parent On the other hand, the absence of one or more limbs, deficiency of the cranium, etc , are to be accounted for in a satisfactory way only by assuming that external causes of injury have affected the growing fetus Disturbing influences acting on the otherwise normal embryo play a far more important part than heredity in the genesis of malformations The pathologic peculiarities transmitted congenitally from parent to child manifest themselves less in anomalies of external form than in deficiency or perverted function of the tissues or in morbid predispositions Such anomalies are to be detected only by minute anatomic examination, or they are incapable of anatomic demonstration at all The causes of malformation in any given case can only be approximately determined or referred to this or that hypothetic injury Monstrosities by defect are commonly malformations by arrest, they owe their existence to a local hindrance to the development of a normally constituted embryo The earlier the injury the greater is usually its effect The loss of a few cells in the earlier stages of growth may involve the absence of an entire limb or organ, while later on, after the general form is nearly complete, the same loss might not be noticeable at all Malformations, in the narrowest sense of the term originate for the most part in the first three months of fetal life —Ziegler Lehrbuch der Allgem, etc
>
> There is a rapidly developing germ embryo made up of cells whose sensibilities and function are the greater the earlier the stage of growth At the first day the sensibility and function of the individual cells are far greater than at the thirtieth or ninetieth day The earlier an injury occurs to these cells the greater must be its effect, a cell or a few cells impaired or destroyed in the earlier stages of development must certainly pervert and stunt the further development to that proportionate extent, even may involve the absence of an entire limb or organ, but later, as is easily conceivable, the same loss may not be noticed —(Stahl "Maternal Impressions"—*Amer Jour of Obstetrics*, Vol xxxiii, No 1, 1896)

Personally I have never met with such a case of fetal malformation, due to instrumental attempts at abortion, though I remember having such a case related to me for my opinion as to its probability A patient was confined of a seventh to eighth months' fetus Before he had mentioned to her anything about its appearance, the parturient remarked to her physician that she feared to look at it as she was afraid that some mark might be present of the repeated attempts that had been made during the first two months to interrupt the pregnancy To the sister the physician stated that there were marks about the head showing that violence had been used in some manner, causing deformity, especially about the eyes and forehead

Dr T R Chambers, in the "Trans of the N Y Path Society," Vol iv, p 117, reports a case of "a four-months' fetus, bearing the imprint of the mechanic means to cause abortion " The fetus had imprints upon the crown of its head, a result of the harsh method employed to induce abortion She had passed a rather stiff catheter, some two days before Though his subject title conveys the idea I would advance his subject matter does not His subject matter is but the natural sequence of trauma with death, followed by immediate delivery, analogous to the subsequent spontaneous delivery following a previous craniotomy in later labor

I think the future will show, if it has not already been shown, that these attempts at abortion, without necessarily affecting the gestation sac, may affect a few of the germinal cells of the embryo, resulting in their inflammation or death, without seriously affecting the life of the embryo as a whole The life of the embryo continuing, the further development of the embryo will be stunted in so far as the area is to which these cells give development Thus a slight destructive effect to a few developmental cells in the embryo may give rise to a serious malformation or monstrosity in the fetus

---

[1] Dr Dorland in his excellent 'Manual of Obstetrics " uses *hydroperione* as the term for this fluid would not *perioneal* (περι, around ὠόν, ovum) be better and more simple therefore *perioneal* fluid and *perioneal* cavity? The analogy with pericardial, peritoneal, etc would be more true, since function and composition of fluid and cavity is similar Hydroperione (ὑδωρ, water περι, around and ἰέναι, to go) This term was introduced by Breschet to describe a liquid contained between the decidua vera and decidua reflexa, designed he thought, to nourish the embryo at an early period of gestation —(Foster.)

Again, but a glance at Figs 1 and 3 will suffice to explain why in the exceptional case menstruation may occur in the presence of an ovum (intrauterine), and continue through pregnancy, it will likewise explain the origin of a *hydrorrhea gravidarum*, or, *hydrorrhea decidualis*, the so-called false waters of pregnancy

Fig 3 shows the probe F breaking down the fibrous deciduo-uterine union, and thus more or less breaking open the uterine vessels, exposing them to the entrance of infection and of air This might explain also the possibility of air emboli or the entrance of air into the circulation with, sudden death Fortunately this fatal expression is rare, and indicates very strongly that mere separation of the decidua and exposure of the sinuses are theoretically more prominent as the causative factor of air emboli than practically seems to be the case Of the immense number of these cases of instrumental attempts at abortion in operative labors, as in podalic version with extraction, difficult and rapid forceps delivery, where serious cervical and uterine lacerations are sometimes unavoidable, in ruptures of the uterus and Cæsarean section, or in gynecologic and surgical operations where important vessels are exposed, it is only for a moment, but a moment is sufficient where pathologic desire seeks an opportunity, in these many cases where blood and lymph vessels are opened and exposed it is very seldom, in fact, comparatively speaking, rare, that sudden death occurs due to this cause, entrance of air into the circulation The conclusion would seem appropriate that where in an exceptional case death does follow from this cause, some other rôle plays the more active though favoring influence than does the mere exposure of the sinuses and channels

The treatment of this class of cases with infection and retention whether partial or complete, should be immediate dilatation and emptying of the uterus Hysterectomy would hardly be called in question

---

IRREGULARITIES OF THE DENTAL ARCH

Presented to the Section on Stomatology, at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo , June 7 10 1898

BY EUGENE S TALBOT, M D , D D S
FELLOW OF THE CHICAGO ACADEMY OF MEDICINE
CHICAGO

Having in the last two decades given much attention to researches on the etiology of the types of faces of most nationalities, I propose to present the causes of irregularities of the dental arch in a concise, practical manner In studying the etiology of irregularities of the dental arch, I shall discuss the merits and demerits of some of the later theories, including those as to the alleged normal dental arch Two misleading classifications of what constitutes normal dental arches have been advanced by able practitioners of dentistry

"The American System of Dentistry," Vol ii, page 1030, published in 1887, contains an article entitled "Dental and Facial Types," in which the author, after discussing temperaments, attempts to show that certain forms of dental arches (which he calls types) are characteristic of different temperaments Thus, "the arch of the bilious temperament from cuspid to cuspid is almost flat, the lines backward from these points divulging in an almost straight line The dome of the mouth is high and almost square The sanguinous arch resembles a horseshoe in shape The dome of the mouth is high and semicircular The arch of the nervous temperament presents a strong contrast to either of the two preceding, and is sometimes spoken of as gothic, from its pointed character From the central incisors, which often overlap for want of space, the line of the remaining teeth continues backward with a slight curve, the greatest prominence being between the cuspids and first bicuspids The roof of the mouth partakes of the same curve and angle as the arch The lymphatic arch is almost semicircular in its outline, and somewhat resembles the sanguinous temperament The dome or roof of the mouth is flat and low"

In "The American Text-Book of Operative Dentistry," page 18, the author of the chapter on "The Dental Arch" remarks "The square arch (which resembles Ivy's arch of the bilious) is found usually in persons of strong osseous organization, of Scotch or Irish descent, of Gaelic extraction The round square (which resembles Ivy's sanguinous) is the medium arch, and is the form usually met with in ordinary well-developed, robust Americans The round arch is the circular or horseshoe The arch is quite characteristic in some races, as the brachycephalic, South German The round V (which resembles Ivy's nervous arch) is constricted in front or narrow, so that the incisors mark a small curve, whose apex is the center It is the arch of beauty, and that most admired in women of the Latin races"

When the causes which produce the changes in outline and deformities are fully understood, the absurdity of the theories from the standpoint of late researches becomes apparent Since the frontal arch can not be outlined until all the permanent teeth are in position—as nothing can act except it exists—and as these deformities are never observed in connection with the first set of teeth, in order to study the normal or deformed arch, the person must have reached the age of from 6 to 12 years It is self-evident, then, that the influences which bring about changes in outline must exert themselves at that period and not earlier In order therefore, to understand the normal as well as the abnormal dental arch, the human face and jaws must be studied

The evolution of the human face and jaws is rather complicated, since their development is the result of two forms of evolution 1, the evolution of the face and jaws from the embryo to maturity, 2, the evolution of the face and jaws from the anthropoid ape to that of the present man The human face is modified backward from the vertebrate type It is an additional illustration of the degeneracy of a series of related structures for the benefit of the organism as a whole The progress of development of the face in the vertebrates is checked in man 1 As Minot[1] remarks, because the upright position renders it unnecessary to bend the head as in quadrupeds 2 Because the enormous cerebral development has rendered an enlargement of the brain cavity necessary This has taken place by extending the cavity over the nose region as well as by enlarging the whole skull 3 Because the development of the face is arrested at an embryonic stage, the production of a long snout being really an advance in development which does not take place in man

---

[1] Human Embryology p 468

The human face at birth is so near that of the monkey that if only the heads of both were exposed to view, it would be difficult to distinguish one from the other Cope[2] has made the following classification of the head and face for comparative study "The relative size of the cerebral to the facial regions, the prominence of the forehead, the prominence of the superciliary regions, the prominence of the alveolar borders, the prominence and width of the chin, the relation to width of skull, the prominence of the malar bones, the form of the nose, the relative size of the mouth and lips At birth in the infant ape, the facial region of the skull is smaller than in the adult, the forehead is more prominent, the superciliary ridges are more prominent, the edges of the jaws are more prominent, the chin is less, while the cheek bones are more prominent, the nose is without a bridge, and has short and flat cartilages, the face is flattened, the orbits are smaller and closer together, the mouth is small and the lips are thin In the typic infant child, as he begins to develop, the cerebral part of the skull more than in the adult predominates over the facial, the superciliary ridges are not developed, the alveolar borders are not prominent, the malar bones are not prominent, the nose is without a bridge and the cartilages are flat and generally short, the eyes are larger " In this last particular the human infant resembles the lemurs, and thus retains an embryonic tendency In some degenerates this tendency remains unchecked, and the result is unusually large orbits In other instances the human fetus passes through this lemurian stage to reach and even exceed the anthropoid in smallness and closeness together

In a paper read before the Odontographic Society of Chicago and the First District Society of New York, and just published,[3] entitled "Degeneracy in its Relations to Deformities of the Jaws and Irregularities of the Teeth," I showed how evolution of the face progressed from the ape to man until it presented a perpendicular line, and that recession of the jaws was still going on In the evolution of the jaws from birth to maturity there is constant enlargement of the alveolar process brought about by the crowns of the teeth and broadening of the rami by the development of the skull, which is claimed by some writers to stamp the type of jaw Tomes[4] has shown after repeated experiments that the inner surfaces of the fetal jaws remain the same throughout life, that the development and growth are almost entirely upon the outer plate of bone anteriorly and laterally, and that the jaw grows posteriorly for the purpose of containing the molar teeth It is this growth that is checked by the other forms of evolution which characterize the race It is this growth that is checked in development at some period in the evolution of the face and jaws from the fetus to maturity, the result of degeneracy Having explained the two forms of evolution which take place in the face and jaws it is fitting at this point to return to the discussion of the type of jaws

When man was more of an animal than he is today in other words, when his jaws protruded beyond the perpendicular line, it was possible in brachycephalic and dolichocephalic skulls, to show these distinct forms of dental arches, as represented by Ivy This, however, could not be relied on, since, as I have shown,[5] it is possible in one family, to say nothing of nationalities, to change from a complete dolichocephalic head to a most perfect brachycephalic, and vice versa, in four generations Granting that one parent possessed a brachycephalic and the other a dolichocephalic head, what would be the shape of the jaws in the two intermediate generations? These facts are antagonistic to this theory, since the temperaments change more readily, and since the jaws are affected particularly by constitutional and local effects Again I have also found that the tendency of all nationalities is toward the mesocephalic type of head and is strongly illustrated in the negro race which is supposed to be a long headed or dolichocephalic race In an examination of over 3000 negroes in Chicago I found only six that were long-headed, and four of these bordered upon the extreme mesocepahlic type

It is easy to see why temperament has very little to do with the shape of the dental arch Two individuals are married, one a nervous and the other a lymphatic, bilious or sanguinous temperament, all having different jaws, the offspring inherits the jaws of one the teeth of the other, and the temperament of the child is changed The local condition is such that the shape of the jaw may change the character of the arch entirely One child may possess a broad dental arch, but very short, another a very narrow and long dental arch Hence, classifying the dental arch and vault by temperament is wholly out of the question Likewise the theory of placing fixed types of jaws with different nationalities is utterly impossible, since all forms of dental arches are observed in each nationality Some of the primitive races, like the Negro, Chinese, the Latin races, etc , retain the excessive jaws, while the Anglo Saxon, Scandinavian and Gaelic races in most cases have passed far within the perpendicular line It is possible for the arrested jaw to be found among the Negro Chinese and Latin races and large protruding jaws among the Anglo Saxon, Scandinavian and Gaelic races These would be atavistic on the one hand and degenerate on the other

It remains now to explain how irregularities of the arch are produced, and also why, in the present people (bilious, lymphatic and sanguinary), dental arches can not be fixed and confined to distinct nationalities It is not that the evolution of the face has assumed the perpendicular line that it becomes of interest to practitioners of dentistry The teeth do not change (in size) to correspond to the size of the jaws therefore at this period, the jaws are as small as they can possibly be to contain them normally Some years ago,[6] I divided irregularities of the dental arch into constitutional and local *Constitutional* because arrest and excessive development of the maxillary bones may be caused by inherited predisposition but more frequently by constitutional diseases at any period between birth and the sixth year, resulting in an unstable nervous system These excessive and arrested jaws may become inherited in succeeding generations I mention the sixth year because these deformities are never observed in connection with the temporary set of teeth, but invariably after that period Owing to this unstable condition of the jaws, there may be a lateral arrest of development, with a protrusion of the jaws beyond the perpendicular line In such cases there may be V and saddle arches, and the face will assume the hatchet shape *Local*, because irregularities of the teeth may be the result of undue influence of adjoining or occluding teeth A local condition which might easily be taken for a constitutional cause is when the first permanent molars, from any cause, may move forward, thus diminishing the space required for the anterior teeth

---

[2] American Naturalist 1883

[3] Chicago Dental Review April 1895

Dental Surgery

[5] Talbot The Etiology of O[illegible] D[illegible] Jaws and Teeth

[6] Dental Cosmos Octob[illegible] 1

In the constitutional variety of irregularities of the teeth, arrest of development of the jaws invariably takes place The jaws being too small to contain all the teeth, nature is trying to overcome this difficulty by dropping the third molars and the lateral incisors, hence almost invariably arrest of development of the jaws exists when these teeth are missing It not infrequently happens that although the third molars may be missing, there is not sufficient room for the anterior teeth to develop normally Given a jaw too small for the long diameter of the teeth, a break must take place in the dental arch After eight years of constant study, watching the development of jaw deformities and making artificially every movement of the teeth which produces them, I showed, in a series of papers,[*] that irregularities of the teeth were merely a mechanic arrangement, depending entirely upon the jaw on the one hand, and the teeth on the other, and that mouth breathing, thumb-sucking and other external conditions (which up to that time were supposed to be the cause), had nothing to do with them

Two typic breaks take place, each depending entirely upon the relation of the cuspid tooth to the other teeth If the cuspid comes into position after the bicuspids have erupted, the break is in the anterior part of the mouth, producing the V variety, which is atavistic, resembling the reptilian type If the cuspid erupts before the bicuspids, the break is at the sides, forming the saddle arch, also atavistic, resembling the carnivorian type Modifications of these types are the result of local arrangement of the teeth as they erupt One of the most marked examples of this is where the temporary molars are retained too long in the jaw, the roots retaining the crowns of the bicuspids in a smaller circle When the temporary teeth are removed, the crowns of the bicuspids are deflected inward from want of room by the adjoining teeth The cause and manner of formation of the local variety of irregularities have been described so often in my papers and books that it seems unnecessary to enter into their discussion at this time

It will be seen therefore that a race or individual, regardless of temperament, whose face and jaw, in the order of evolution, has become arrested at any point within the perpendicular line—depending upon local and mechanic construction of the dental arch—can not possess fixed dental types of jaws and teeth

103 State Street

---

[*] Papers on the Etiology of Constitutional Irregularities of the Teeth Dental Cosmos, 1888, 1889

Let us have a Department of Public Health!

A METHOD OF HANDLING ALVEOLAR PYORRHEA

Presented to the Section on Stomatology at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo June 7-10 1898

BY GEO T CARPENTER, M D, D D S
CHICAGO

In presenting this paper before this Section, I do so with a feeling that the practical side should not be lost sight of while we are eagerly searching out the scientific Much has been written on the subject of pyorrhea alveolaris and there is a great difference of opinion still existing as to the etiology, pathology, diagnosis and treatment of this disease It is not my purpose in this paper to discuss the various points above mentioned, but to give a brief outline of a method of handling these cases which has given me the most satisfactory results It has been my experience that different cases of pyorrhea differ in their treatment One case may yield readily to a certain treatment, while another may be very persistent in its pathologic behavior But thoroughness in diagnosis and treatment is the key to success In diagnosing any case, get a history of it and decide on the predisposing cause, or cause outside the pocket, which is generally from local irritation caused by wooden toothpicks, ligature, wedging of teeth, or ill-fitting plates or crowns, accompanied with neglect of the mouth These, or other causes should be removed, and any constitutional predisposition should be corrected, and then we should secure the hearty co-operation of the patient The disease once established is self sustaining and it is within the pocket that we must look for, find, and remove the exciting cause, which may be serumal deposits, pus secreting membrane, foreign substances, or diseased or necrosed margins of process To make a careful and thorough examination of the pockets I secure dryness with bibulous paper, protect the parts with a napkin, and coat the surrounding gum with cosmolin to protect the parts outside the pocket from the action of medicines Now dry the pocket and pack with cotton slightly moistened with a 4 to 8 per cent aqueous solution of cocain After allowing this to remain several minutes, carefully remove the cotton The pocket will be found to remain open so that an examination can be made with a mouth mirror Deposits, if present, can be located before instruments are used for their removal I operate on but one tooth at a time, or on the interproximal space between two teeth, doing all that I intend to do in that immediate locality before directing my attention to other teeth All loose teeth having lost two thirds or more of their natural support are extracted The best instruments to use in the pockets are spoon-shaped excavators with the shanks bent so as to reach every part of the root, or pocket They must be kept sharp so that deposits can be easily removed, and the root curretted The soft parts and margin of process can also be curetted if necessary The pocket should be cleansed with equal parts of peroxid of hydrogen and pasteurin, or 3 per cent pyrozone and borolyptol, using a flat-pointed syringe, and pass to the bottom of the pocket This syringe is designed especially to reach pyorrhea pockets, and can be used as successfully on posterior teeth as in the front part of the mouth, and fluids do not escape beside the point until the pocket is distended and all parts are reached This will not only antiseptically cleanse, but will also mechanically carry out all free and loosened particles The gums are now wiped dry and painted with tincture of iodin, which should be repeated about twice a week[1] The tooth, if loose, is supported by bands, or ligatures, and if moved by occlusion I grind the tooth, or its antagonist, sufficiently to prevent all movement, so as to procure rest for the affected parts All subsequent treatment of the pocket should be made by the use of a thinly shaved hardwood toothpick, which can be moistened in the antiseptic and bent so as to reach any location This should be passed into the pocket as deep as possible without injury to the tissue, or causing pain or hemorrhage, and repeat the application once or twice a week, as long as the toothpick can gain entrance to the pocket I find that it is seldom, if ever, necessary to make incisions through the gums into the pockets and I but seldom resort to the use of dilute or stronger acids as an aid in softening or removing deposits, or to establish resolution Antiseptic and prophylactic conditions should be established and followed during treatment, and indefinitely continued throughout life I recommend a thorough rinsing of the mouth and the use of an antiseptic after each meal I also recommend a medium stiff toothbrush to be carefully used once in twenty four hours, and that at night before retiring This time once established will not be substituted for other hours in the day The brush will have time to dry, and the elasticity of bristles be restored, which will do the best work at the most needed time A good dentifrice with precipitated chalk as a base should be used on the brush, after which 1 dram of pasteurin or borolyptol should be taken into the mouth and retained for from three to five minutes, at the same time moving the cheeks and lips so as to force it between the teeth and reach all parts of the mouth, then expectorate and retire without rinsing the mouth with water The time spent in the successful treatment of this disease depends on constitutional condition of the patient and the extent of the disease, or the thoroughness in which the first operation is performed The recurrence of the disease comes from a failure to remove the predisposing causes The reproduction of gum tissue[2] in all interproximal spaces is essential to prevent the lodgment of food or injudicious use of the toothpick I believe that a thorough removal of the cause, with antiseptic treatment and stimulation of the gum tissue will cure the most persistent case of alveolar pyorrhea

Columbus Memorial Building

THE MECHANISM OF MAN—ITS EGO AND COSMOS

Presented to the Section on Physiology and Dietetics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY SAMUEL KNOX CRAWFORD, M D , LL D

Late Surgeon Fiftieth Ohio Infantry Medical Director Hospital Steamers Member of Operating Board Twenty Third Army Corps
Chief Operator Second Division and Surgeon in
Charge of Field Hospital
CHICAGO ILL

None but the creative power from which all things sprang can aspire to the construction of something out of nothing, or the reconstruction of an entity into nothing Chemistry attempts to describe all material substances, to tell of their ultimate particles, and formulate the laws which govern their combinations and decompositions, but does not assume to create or annihilate the molecule with which it deals or the atom which it fondles This is in obedience to the inevitable and immutable law of the indestructibility of matter and force Matter is tangible force is intangible Matter is found in states force is responsible for the state Matter is also found in kingdoms force is again ruling it The one is made to grow from within by the complicated power of nutrition, the other to increase from without by the simpler but tardier function of accretion

The organic and inorganic comprise everything that occupies space Animals and vegetables are the organic, and all else is inorganic Vegetables feed upon the inorganic, and animals are fed upon the vegetables, thus the vegetable becomes the connecting link between the animal and inorganic kingdoms Animals also feed upon each other and thus become omnivorous

Animals and vegetables have many characteristics in common, from the standpoint of nutrition The vegetable takes the mineral from the earth and sea and sky and elaborates it into an organic compound and from this the animal is fed and his body reconstructed This is accomplished by force, of which we understand but the phenomena of its work The force within the animal enables it to convert compounds prepared by the vegetable into tissue of its own and decompose others into their constituent elements, from which it forms new combinations for its own peculiar purposes Thus sugars and starches are formed in the vegetable, of carbon, oxygen and hydrogen, to be decomposed into hydrocarbons and carbohydrates in the animal and formed into fat

Chemic combinations and decompositions are accomplished by force within the body as without This is but a particular form of the general force to which all matter is subservient, but of which animals and vegetables have the employment in the performance of their functions, and must not be confounded with that other and higher form of the same force which we call vital force Hence it follows from this that the less decomposition and recombination required to transform vegetable products into pabulum for the animal to assimilate, and the less assimilative force to be employed the greater the conservation of force within the body will be conduced The hydrocarbons as well as the carbohydrates are heat-producing foods and serve the animal economy in the capacity of fuel It follows that to accomplish the final act of combustion and the evolvement of heat, the greater economy is, in pabulizing, for the animal, to employ those articles that require the least amount of chemic action, and perforce assimilation demands the minimum amount of vital effort

This is all on the principle that seasoned wood is more economic fuel than that taken direct from the growing tree As animal bodies radiate heat from within their fabrics, as do other bodies, in the general equalization of this form of force, it follows that in a climate whose temperature is zero, a much larger amount of heat-producing food will have been required to sustain a given temperature within than in one whose thermal conditions range high toward the third-figure standard This is a fact attested by common observation Nature has so managed her affairs in the animal that the redundancies not required to sustain temperature may be stored away in odd places about the fabric as so much surplus fuel in stock, and *this is fat* As a factor in the cosmos, fat plays a conspicuously important part, for good in due proportions and for evil in disproportions

---

[1] Dr Talbot Pyorrhea Alveolaris International Dental Journal April 189

[2] Reproduction of Gum Tissue Dental Review Nov 1897

But the organic kingdom abounds in another class of compounds embracing an additional component element Nitrogen is the representative of a class of compounds that enter into all the contractile and protective tissues, as carbon is of the heat-evolving principles Nitrogen, then, may be said to be to the muscular and fibrous system what carbon is to the combustion of the body Hence the nitrogenous and carbonaceous principles or the nitrogenized and non-nitrogenized organic compounds Carbon, hydrogen, oxygen and nitrogen are the cardinal elements of the animal economy and for the purposes of this paper the others may largely be eliminated from consideration Muscular action and physical endurance, then, depend largely upon a due amount of nitrogenous matter in the pabulum from which repairs are to come In like manner, when resistance to low temperature is required, carbon must have been supplied in amount equal to the waste to be endured from the standpoint of fuel, to contend with the radiation incident to environs If more food be taken than the economy requires for consumption in molecular action and fuel, the surplus must be stored somewhere about the fabric or be otherwise disposed of, and hence redundancies become matters of the gravest importance, and the overflow becomes a balance of power for health or disease Overflow deposits are typic as sources of miasms and infections, and hence the more nearly the supply can be made to conform to demand, the more certainly will safety ensue

The mechanism of man may be said to consist of the spiritual and physical bodies, the one within the other, the one atomic, which is a form of force that, like other forms of intangibles or imponderables, can only be studied by its phenomena The cosmos may properly embrace the entire mechanism, and the ego, consisting as it does of the spiritual man or soul, is the controlling factor of it all As the play of the conscious self upon the whole mechanism is the play of the atomic upon the molecular structure or tangible body, it becomes a matter of great concern as to the quality of the matter or molecules entering into the composition of the parts whose functionation leads to the accomplishment of acts desired

The disposal of surplusages and effete matter eventuates from the various forms of the general force obtaining in the fabric, and therefore, there must be a system of sewage, hence the organs of excretion obtain If in any instance the work to be accomplished by these emunctories be too onerous for their capacity, it becomes a matter of endurance and a question of time as to impairment, and hence vitiated function In this age of serious thought and painstaking investigation, every physician will acknowledge and every surgeon accord that diet is of the first importance in the management of the various ailments they are called upon to combat The hygienist may employ and the sanitarian adopt the most efficient measures at their disposal in the practice of their art, and yet none so good and so masterly effective as that of dietetics All this is subservient to the inexorable law of waste and repair of life, and the exchanges must, under the various vicissitudes of life, be provided for in proportion to the requirements from function and environment, or the penalties paid

If an immature man be placed in a climate of high temperature, where moisture abounds in the heated atmosphere, if he be clothed in raiment whose texture poorly conducts the heat from his body at best, fed upon a diet consisting largely of carbohydrates, and required to perform severe and prolonged muscular functions, the balances of waste and repair must become embarrassed and development impeded The systemic sewerage must of necessity become deficient, and his body a shining mark for infectional miasms The young soldier in the field in time of war, habited in regulation clothing, fed upon the ration of tradition fat bacon, hardtack and beans, in a climate of moist atmosphere and scorching sun, with a temperature hovering about the three-figure record in the shade, and required to do but the minimum amount of military duty incident to active campaigning, must soon become an object of disease from head to foot If he survives the dangers of infection from the numerous foci that menace large armies and unsanitary conditions, generally he will have laid the foundations well and securely for a life of fatty ills too numerous for the vocabulary of most writers to describe War is a cruelty and defies refinement, but as a necessity it appeals to the impulses of humanitarians and scientists to avoid the cruelties of vicious diet and the filth that betokens culture media

Science of today does not recommend fat bacon and half cooked beans as articles of diet from a sanitary standpoint, nor does the spirit of humanity suggest the ordinary army ration of the past as a suitable food for the brave soldier who voluntarily takes his life in his own hands in defense of his country and its honor, and in behalf of human interests and liberties under the tropics The spirit of the age and the dictates of Christian sentiment deny that an American volunteer soldier becomes a machine at the moment of muster, and thereafter as such, is not entitled to the best sanitation that science may suggest, not incompatible with the exigencies of war The article of primary importance in all diet lists is pure water, and the purest and best of that is distilled water The purest ice is the artificial, which is made of distilled water

A division of soldiers should contain four brigades, each brigade should be composed of four regiments, and no regiment should be allowed to fall far below a thousand men and officers Every division in the field should have its field-hospital equipped in every regard with up-to date appliances and conveniences, which would include an abundance of pure water and ice With these articles as a base for the equipment, all else would be an easy matter of attainment A division hospital should never be more than a half-hour's march from the remotest regiment of its composition, and if equipped with a good artificial ice machine could be the fountain at all times at which the canteen may be filled with the purest and coolest water for all Thus armed, an army of invasion would be invincible, even under the equator, not only to a wily human foe, but its surgeons could grapple even-handed with foes of the infective type, which are far more to be dreaded

The writer feels impelled to press this question in the face of existing conditions, as he knows whereof he speaks, from an experience of years in the field beneath a southern sun, and amidst swamps and in the thickest of miasms A well-selected diet of articles suited to season and climate and service, whatever that may be, is the most economic measure that can be adopted in the management of large bodies of men, whether it be in civil or military life, and whether it be viewed from the life-point of the present the health-point of the months and years to come, or be considered from a commercial point of view

As a business man, I would be glad of a contract with my government to furnish any division of any corps now organizing for offensive warfare in southern climes, with the purest and best of water and ice throughout the service of the command, for an amount of money equal to the pensions falling due within one year, as a result of the ravages of typhoid fever and other infectious diseases of any other command of equal strength *not* so provided for and under like conditions of service And as a further factor of the contract I would be glad of the opportunity of accepting the present ration of the same command and furnishing another infinitely more suitable for, and more acceptable to the rank and file of the command, receiving the pensions due in two years to the crippled survivors and widows and orphans of deceased soldiers from sunstroke, rheumatoids and diseases of the brain and spinal cord, from an equal number of men not so dieted, but doing service under like conditions, as compensation for my trouble, and so confident do I feel of this that I would expect to grow immensely rich off the proceeds

But far above the dollar stands the moral of the equation, and when generations yet unborn are taken as the representative of x, the problem becomes a serious one and the mechanism of the future man with his ego and cosmos bids us move altogether in his interests Let the door of yesterday be closed and tomorrow's door be opened

---

CARDIATION

Presented to the Section on Physiology and Dietetics, at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY EPHRAIM CUTTER, LL D M D ,

HARV 1856, UNIV PA , 1857

NEW YORK CITY

Cerebration is a general term for the functions of the cerebrum and cerebellum Manipulation means the functions of hands, and the writer thinks that it would be well if cardiation and its fellow, cardiate, were commonly used

The heart is an autonomy like the brain, eye, ear, epithelium, etc Indeed, some concede autonomy to every cell in the human body Hence it is modest to claim autonomy for the heart on general principles for the following reasons The heart has nerves enough of its own to run it Some three hundred years ago a Dutch anatomist executed a life size copper engraving of the cardiac ganglionic nerve centers The heart was covered with white ganglia about half an inch in diameter, connected with radiating nerve-fibers, like streets or railways between cities While a medical student, I killed a fresh-water snapper turtle of about thirty pounds weight The heart, entirely removed, beat regularly for more than twelve hours If this is not autonomy what is? How much more can a live heart undisturbed *in situ naturali* act of itself?

Some years ago, at Hartford, Conn , was a murderer who was to be hanged He tried suicide as manifested by curious respiratory symptoms and oppressed heart action He was treated and executed a few days after said perplexing symptoms appeared The autopsy revealed a small, healed narrow scar one half inch long, just below the left nipple In the heart was a blade of a pocket knife three to four inches long completely buried! Happening to be there I saw both heart and blade The history seemed incredible, but the high character of the medical gentlemen, and the exhibit are beyond cavil Here indeed was autonomy allied to that of the above turtle's heart

The heart not an autonomy? How then does it beat all our lives long, whether we are awake or asleep, conscious or unconscious, active or inactive? Oliver Wendell Holmes taught us to observe the live hearts of land snails in motion, in formation and *in situ naturali*, through the transparent shell of the embryo It is a marvel of microscopy! I have seen anencephalous babes born at term where the development was perfect, save the entire absence of the cerebrum and of the bones of the cranium above the frontal arches and the ears If the head is absolutely needful to the heart, these monsters could not be And yet their hearts and bodies are apparently perfect Thus we have another item of evidence to prove the heart's autonomy

If we run on a level ground, ascend heights, lift heavy weights or do anything that requires a greater expenditure of strength, then the heart beats harder and faster What better reason for this than that the heart nerve centers know they must supply more force to meet these new demands, or else the united autonomies we call the "body systemic" are imperiled if not killed The heart has a governor in its nerve ganglia, like a steam engine, but it is a more perfect governor than any other How often four to twenty times more work is put on the heart suddenly in running up stairs! How long our hearts stand strains which in like proportions would smash the best Corliss steam engine! How quickly the heart ganglions respond! How soon they seem to know when danger comes in overwork! How hard they try to avert it by palpitation, pain, tumultuous action, pounding impulses against the ribs so as to break them (Old Author) The cases were probably old syphilitics with fragile bones

Sometimes the heart substance ruptures from its own violence specially in psychologic distress, as in the crucifixion of Jesus Christ The heart is a psychic center of nerve emotions, feelings, passions In 957 allusions found in the Bible, the heart is referred to mostly as an autonomy in nearly all and sometimes in the strongest language On the other hand, the Bible has less than 500 allusions to the head as an autonomy One reference may suffice as evidence — "The fool hath said in his heart there is *no God!*" It seems he was not such a fool as to say it in his head!

We love, we hate, covet, cherish (even murder), yearn, are happy or sorry, are strong and weak in our hearts far more than our heads The Bible says our "hearts are deceitful above all things and desperately wicked" Who can know it? The Bible never speaks thus of the head It calls the heart the "temple of the living God," but the head never has such words said of it

Every physician knows that the heart will live and work after the head is practically dead The sympathetic nerves do not wholly control the heart They could not have had anything to [illegible] the [illegible] turtle's heart beat twelve hours after removal from [illegible] body The head may drive the heart as the jockey does a horse but the horse will drive itself as an autonomy I once drove my horse, Billy Pool, off 20 miles in a new direction Returning I threw the reins over the dasher and the horse drove himself all the way back, turning out for teams both coming and going, and clearing corners just as well as if I drove him So may the heart drive itself, independent of the head The heart suffers when other autonomies, the head, liver, kidneys, skin, etc , are out of order and use up so much *dynamis* (vital force) as to steal from the heart that knows no rest

I think that three-quarters of heart troubles in women come from uterine lesions using up the *dynamis* This may be over-estimated, but there is so much of this causal relation that no specialist of heart disease can afford to overlook uterine diseases Note how our vernacular treats the heart as an autonomy What does the expression "he has no heart" mean but that the heart's compassions are so stifled as not to yearn? But how can this be if the heart is not an independent organ?

We say "hearty food," meaning that such aliment strengthens or dynamizes the heart Were there no autonomy this would mean but little

CLINICAL LESSONS TAUGHT BY CARDIATION

Lessen heart work and then Nature will cure by having dynamis enough to do its work with It is wonderful how Nature cures this mighty engine while it is running and working, Man made engines stop running and go into the repair shop "God, in whom we live and move and are," through His laws, i e Nature, repairs the unceasingly beating sick heart, a task that is impossible to man who has much to do, as he can destroy if he can not create In other words rest the heart in and between its beats, by position, by keeping still, by "laying low," figuratively and literally, by freeing the body from all compression and tight environments, by lightening work, by removing all causes of psychical, mental, intellectual, sensual (in its best and worst meaning) and of physical excitement, by lessening the friction of the more than 100,000 miles of capillaries, in an adult male, *a*, making the blood or normal dilution with water, *b* removing the adhesiveness of the red- and white-blood corpuscles, the massiveness and abundance of the fibrin filaments, the amorphous and crystalline blood gravels or crystallized bodies, such as oxalate of lime, cystine, uric acid and its salts, triple phosphates, cholesterin, etc , removing thrombi and emboli of fibrin, gravels, fat, leucocytes, cryptogams, in fact, making the blood stream normal by proper feeding and medicines In this way a heart that has grown large from its overwork will reduce down to normality, and valvular lesions will be restored to health I have seen this done If the heart is fattily degenerated, the diseased muscular fibers will be replaced by normal fibers, and if time enough is had even the stony deposits are removed Nature, not medicine, does these things when chances are given by means of rest and plenty of dynamis being given

BIBLIOGRAPHY

Feeding Against the Appetite Medical Register Philadelphia April 2 and 9 1887

Heart Disease and Feeding Open letter to Sir W T Gardner M D LL D , Glasgow Albany Medical Annals September 1888

On the Treatmeat of Heart Diseases Trans Tenth International Congress Bd ii Abt v p 102

A New Sign of the Pre embolic State Chicago Medical Journal February 1879

Tolles' One-Seventy fifth Inch Objective Its History, Uses, and Construction Am Jour of Arts and Sciences, New Haven August, 1879 Scientific Am Supplement Translated into French, and published Jour de Micrographie, Paris 1879

Morphology of Rheumatic Blood Presented to the American Society of Microscopists, 1884

Morphology of Reumatic Blood Read to Ninth International Med Congress

Partial Syllabic Lists of the Clinical Morphologies of Blood, Sputum, Fauces, Urine Foods, Clothing, Soils Etc Published by author, 1889

On the Morphology of Rheumatic Blood Philadelphia Med Times, February 1889

The Therapeutic Drinking of Hot Water Its Origin and Use Am Med Weekly, Jan 6, 1883 Druggists' Circular, August, 1883, London Lancet Sept 15, 1883, Journal d Hygiene Oct 25, 1883 Therapeutic Gazette, Scientific American, Constitutionelle and the medical and secular press of Paris

The Fatty Ills and their Masquerades John A Cutter, M D

SOCIETY PROCEEDINGS

San Francisco County Medical Society

December Meeting

Dr **KASPAR PISCHEL** presented and described a case of

FOREIGN BODY PENETRATING THE EYEBALL

The foreign body was a chip of iron, and was removed by means of a Habb's magnet which he had made in San Francisco some months ago The chip of iron entered the eye November 30, at once causing pain and inflammation This was treated for some days by a general practitioner, the pain subsiding to a great extent, but it was not entirely relieved, and the patient was sent to Dr Pischel December 6 When seen there was dilatation of the pupil of the right eye, some pain and tenderness, and vision of 5/15 The wound of entrance could be seen and also a brownish stain in the lens, with an opacity in the posterior portion of the lens, which was cupped The foreign body could not be seen, and its actual presence could not be detected The eye was cocainized and approached near to the big magnet, but successive trials by making and breaking the circuit in the magnet did not elicit any pain nor produce any indication of the presence of the particle The next day the trial was repeated, but on this occasion the eye was not cocainized Making and breaking the circuit at times caused pain and at others did not After a number of attempts the iris was seen to bulge when the current was thrown on the magnet, and finally it was drawn to the cornea An incision was then made in the cornea and a small magnet introduced into the wound thus made, it failed, however, to attract the minute iron chip and the tip of the large magnet was introduced At the first trial with the tip of the large magnet the particle was drawn out of the eye It was found to weigh 00068 grams Dr Pischel called attention to the difficulty of deciding whether there is or is not a foreign body present In this case the symptom of pain on closing the circuit and making the large mass of iron magnetic, was not present, it has been claimed that when the magnet is approached to an eye which contains a particle of iron or steel pain is always a symptom This is now shown to be not always the case The question might be raised, "if there be a foreign body in the eye and there is no inflammatory trouble, why not leave it alone?" The use of the large magnet does not introduce any danger, and we know that there is always possibility of sympathetic ophthalmia when a foreign body is allowed to remain in the eye

PHILIP MILLS JONES said The feature of particular interest in this case is the fact that such an exceedingly small particle of iron could be drawn from such a distance, for it must have been lodged behind the lens In the testing of the magnet which Dr Pischel used, and which I had the pleasure of designing for him, I found that the action on such very minute particles was very small, and I should not have thought that the magnet would attract a piece of this size at the distance which it must have been This case goes to show that the big magnets are even more satisfactory than had been supposed The absence of inflammation may doubtless be explained by the fact that the chip of iron, when struck off by the blow of a hammer was probably heated to a high temperature We see such particles flying as sparks when iron is struck by a hammer in the dark The heating would quite effectually sterilize the chip

Dr **W F SOUTHARD** said that he had intended to call attention to the point made by Dr Jones, as to the sterility of these chips of iron He had seen a great many of these cases of iron in the eyeball, when connected with the Massachusetts General Eye and Ear Infirmary Rarely in a case of *iron penetrating* the ball, when it was in the shape of a chip struck off by a hammer, was there any inflammatory trouble following the injury

Dr Philip King Brown reported to the meeting

A CASE OF ACETANILID POISONING

The case was of unusual interest for the reason that it had been so carefully studied both before and after death The patient was a male, 37 years of age He had been for some years rather constipated, with frequent headaches as a result About January 22 he called in his lodge doctor, who left a prescription calling for 60 grains of acetanilid in 10 grain powders, with instructions that one powder was to be taken, and if that did not give relief another could be taken at the end of an hour The man took five of the powders in quick succession, but without relieving the headache He then became unconscious, cyanotic, vomited, and the family sent for Dr Kahn, not however, telling him anything of the visit of the lodge doctor, nor of the taking of the acetanilid, indeed, the fact that he had poisoned himself with this drug did not appear till just before his death For thirty six hours he remained at home, was delirious, cyanotic jaundiced, and seemed to complain of pain in the left side of his head and left umbilic region There was also vomiting, with occasional chills When removed to the hospital he was carefully examined, but no positive diagnosis could be made He was then delirious, had chills, jaundice, almost continuous vomiting, with a temperature of 100 2 degrees, pulse 78, and shallow respirations Cyanosis was marked, but examination of the heart failed to reveal anything There was considerable cough, with expectoration of thick mucus The abdomen was flat, but the viscera appeared to be normal There was no hemorrhage of the mucous membrane The urine was at first clear, but later became deep red in color, and about two days before death was entirely suppressed It was alkaline, s g 1016, coagulated on boiling, and contained large numbers of cysts, yellow and brown in color The thirst, vomiting and cough with expectoration were almost continuous up to the time of death, which occurred on the sixth day after entering the hospital For the first day he was given milk, and one sixtieth grain of strychnin hypodermically, but as he vomited all the milk at once, and as the circulation was so poor that the strychnin was not absorbed by the skin, he was subsequently fed by the rectum, and the strychnia was also given in the same manner The vomit was a thick green mucus He was perfectly unconscious all the time The reflexes were at first exaggerated, but later were lowered The temperature dropped, becoming subnormal and reaching 75 5 degrees just before death The circulation was at all times very poor, so much so as to prevent any attempt at medication through the skin After the fourth day blood appeared in the stools Oxygen was not used Blood examination made shortly before death showed a very marked destructive process going on in the blood corpuscles together with evidences of attempts at reparation The nucleated elements were largely in excess The blood was examined from time to time throughout the period he was in the hospital, and the destruction of blood cells was seen to be progressive Some of the clinical features noted were as follows There was no anesthesia, and for nine days after taking 50 grains of acetanilid there was marked hyperesthesia, the motor and sensory functions were all right, the arterial pressure was low throughout the time of illness, the respirations were shallow and slowly increased, reaching about thirty six just before death, the temperature was subnormal, the alkalinity of the blood was reduced 80 per cent The colored matter in the urine was found to be iron free hematin, on spectroscopic examination The following conditions were found on autopsy In the abdomen, the liver and stomach were normal, the spleen was slightly enlarged, the gall bladder was found filled with dark, sticky, green bile, the kidneys were enlarged and showed a condition of nephritis which seemed to be recent, the heart showed fatty degeneration, the valves were all thickened, though competent there was a large clot in the right auricle, which was probably antemortem, the lungs showed evidence of previous damage and a catarrhal condition, frothy, bloody mucus could be squeezed out of a cut section, the intestines were the seat of a chronic catarrhal inflammation and were covered with a thick green slime

Dr J Henry Barbat said the death is probably only one of a number that have occurred in this city, caused by taking the so called headache powders The amount of harm done by these remedies can not be calculated He had repeatedly seen marked cyanosis follow the use of 10 grains of acetanilid, and while the "acetanilid compound" was somewhat better he considered it did not contain enough caffein to counteract the depressant effect of the acetanilid He usually gave a little digitalis also, when making use of acetanilid In one case where he had dusted a very small amount of acetanilid powder on the surface of the gut in a child, marked cyanosis followed and persisted for some days

Dr M Krotoszyner strenuously objected to the manner in which physicians were making use of the coal tar products, both those in which the formula was known and those in which it was not known He also called attention to the fact that many physicians were using a proprietary preparation called "antikamnia," said to be composed largely of acetanilid but of which the formula was not known He did not consider it at all ethic for physicians to use and prescribe this remedy, as it is a secret preparation, and because it is sold so commonly to the general public as a headache cure He considered that acetanilid should be used in all cases with the utmost care, and that five to six grains was a good sized dose

Dr H D Robertson had seen a number of fatal cases of poisoning from the use of the coal tar products, and he gave a résumé of the history of these drugs for the past fifteen or twenty years The more recent of these productions did not seem to be so dangerous as the older ones, acetanilid, antipyrin, etc It was a question in his mind, whether the prostration was due to a direct action or to the destruction of the blood elements He called attention to the marked anemia following the use of trional for long periods, and suggested that the destruction of the blood corpuscles would account for the anemic condition

Dr E E Kelley said that he was inclined to think that the powerfully depressing action of acetanilid might be caused by the poisoned condition of the blood Dr Brown had showed that the heart's action remained practically normal and also that the blood was profoundly affected Could not the depressing effect and the later effect on the heart, be due to this primary action on the blood? He also suggested that the complete suppression of urine so long before death would seem to show a previous disease of the kidneys, which may have affected the action of the acetanilid and have had something to do with the cause of death

Dr Hunkin said that the extent to which these headache remedies were being used was most distressing He had recently been called to see two girls who were feeling very much upset, but could not account for the trouble They were markedly cyanotic, languid and listless, but complained of no pain He found that the entire family was given to using large quantities of a remedy which they all took at the slightest provocation, and for almost anything from constipation to backache They were evidently suffering from coal tar poisoning

Dr Harold Brun said that the question had frequently presented itself to him, Are the coal tar products, acetanilid, etc, heart depressants or not? He thought they were not, but that, as had been suggested, they owed their depressing action to the effect which they had almost immediately upon the blood

Dr Southard called attention to the personal equation which seemed to have missed the attention of the previous speakers In his own case two or three grains of acetanilid would have a maximum effect, and anything more than that was quite depressing

Dr E G Frisbie also mentioned the personal equation stating that he had frequently noticed that some persons could take very large doses of these drugs, while very small doses would have unpleasant effects with other patients

Dr Brown, in closing the discussion, said that there was no doubt of the actual depressing action of these drugs In the case reported, the administration of strychnin in large doses was all that kept the heart's action up The drug evidently had a depressant action on the heart muscle direct He said that susceptibility was a noted characteristic of these drugs and was most marked in the case of acetanilid He considered three grains the maximum dose, and that anything more than this amount should be given with great caution In answer to a question, he said that the bone marrow was not examined in the case reported but the brain was very carefully examined and showed nothing pathologic. The jaundice was present from the outset and was progressive There were no hyaloid nor fine grained casts, and the appearance of the kidneys on postmortem examination showed that the inflammation of these organs was not of long standing The causes of death were the destruction of the blood corpuscles the blocked up kidneys causing suppression of urine, the heart failure and the persistent vomiting Starvation played a good part in causing death and had it been possible to keep the patient nourished he would perhaps have recovered

Dr Thorne reported three cases of general peritonitis following pelvic disease, in which the patients were in extremely bad condition when operated upon He said that they called attention to the fact that operation should be undertaken in many cases when there was apparently no hope whatever of recovery The result was sometimes marvelous In the cases reported the temperature ranged from 103 to 106 degrees, there were chills, great pain and marked collapse, yet recovery followed in all The fourth case was one of septic infection from a fibroid, which had broken down and was discharging into the abdominal cavity In this case the antistreptococcic serum was used for twenty seven days, but with no good result, and the patient was then operated upon, with recovery He found that after the injection the temperature rose and then fell He did not approve of washing out the abdomen, but carefully wiped off the parts with gauze wet in hot salt solution Drainage should be ample He called attention to the fact that the healthy peritoneum has a great resistivity to infection, but that after years of repeated attacks of pelvic inflammation it loses this resistivity, and then comes an attack of general peritonitis, often fatal He considered the danger of operation, due to opening a pus sac, very small

Dr **BEVERLEY MACMONAGLE** said he had listened to a paper at the last meeting of the society, in which a number of cases were reported, the operation per vagina having been performed, most of the cases recovered The abdominal operation had been performed in all the cases reported by Dr Thorne, and they too had all recovered, one was therefore in some doubt as to which operation to choose He thought that the vagina was not the point of choice for operation, however, for one could more easily operate through the abdomen and less damage could be done Whenever possible, a portion of the ovaries should also be removed, for it was useless and a cause of recurrent trouble in not a few cases He believed in flushing out the cavity with salt solution, and frequently left a quart of the salt solution in the abdomen, closing the wound entirely When there was general peritonitis with true septic pus, he believed it was essential to thoroughly wash the cavity and leave the salt solution in when closing the wound

Dr **J HENRY BARBAT** quite agreed with what Dr MacMonagle had said, but thought it advisable to make the drainage through the vagina in a large number of these cases It could be very easily done, was perfectly safe, and gave the best possible drainage

Cincinnati Academy of Medicine

Meeting of Nov 21, 1898

Dr **JOSEPH RANSOHOFF** exhibited a male patient, about 30 years of age, on whom he had performed, a short time before, a partial operation of removal of the urinary bladder Several years previously, a suprapubic operation had been performed for supposed stone, but nothing found, and the patient had improved considerably after the operation, but of late his cardinal symptom, hematuria, had again come on The blood as a rule, was intimately mixed with the urine, so that suspicion of the kidney as the organ at fault was at first held Occasionally, however, clots of blood were expelled, and even pure blood On opening the bladder by suprapubic section, the trouble was at once discernible a large tumor situated upon and infiltrating the anterior bladder wall So extensive was this infiltration that anything like complete removal of the growth could not be performed without also taking away a section of the bladder Accordingly the abdominal incision was greatly enlarged, and a large oval resection of the anterior wall made, including the tumor The wound was then closed, the lower part being packed and drained with gauze Healing ensued, leaving a very small fistula The microscopic examination showed the tumor to be a carcinoma As the history of involvement covers a period of about five years in all, it is possible that the primary growth may have been papillomatous in character

Dr **LOUIS STRIKER** read a paper on "The General Practitioner and the Optician vs the Oculist," which was discussed by Drs S C Ayers, Tangeman, D T Vail, Marcus, Drury, DeBeck, Christian, and the essayist

Dr **ROBERT SATTLER** reported a case of a woman who had first presented herself for proptosis The inferior orbital plate had been pushed upward and forward, and by narrowing the orbital cavity, had caused protrusion of the eyeball It was thought that the case was one of osteosarcoma, and operation was advised and accepted The incision was begun a little above and an inch external to the outer margin of the orbit and was extended in a curved manner downward and inward, coming up along the side of the nose about on a level with the beginning of the incision Exploration of the maxillary sinus revealed nothing beyond excessive rarefaction, so great indeed that a large hen's egg could have been easily introduced into the cavity The orbital plate was found pushed upward and was relieved The frontal sinus was also very large, readily admitting the little finger No fluid or tumor formation was present in connection with either sinus The external incision was closed, leaving drain to both cavities The lids were sutured together with interrupted sutures so as to avoid dangerous proptosis At the present time, the stitches having been removed, the eye is gradually returning to usefulness

Dr **F W LANGDON** presented a patient, aged 71 years, who about a month ago, while in bed, was seized with coma, the rapidity of the seizure was unknown On recovering it was found that he was afflicted with right hemaplegia involving face, arm and leg, that he also had right homonomous lateral hemianopsia, and anesthesia of the right arm and hand Since that time he has been rapidly recovering from his paralysis, and is now able to walk, though with an ataxic gait It was discovered during his recovery, that a peculiar form of aphasia existed, which greatly aided in locating the site of the lesion He was able to remember but not to recollect When a spoon was held up for his observation he was able to remember that he had seen such an object before, but could not tell just when nor for what use Yet he knew what a spoon was when the name was spoken He was able to say ' spoon" without difficulty He was able to answer simple questions with intelligence, but could not recall the names of objects even when they were put in his hands, and he had the muscular sense in addition to help him solve the riddle A bell was rung behind him, and he was able to tell instantly what it was, but when the bell was showed to him and put in his hands, the tongue being held to prevent its ringing, he was not able to tell what it was This condition was diagnosed as subcortical visual parapraxia There was also alexia present There were some other symptoms present which made him regard the lesion as a thrombosis affecting the posterior artery of the internal capsule, also interfering to some extent with that part of the optic radiation going to the left angular gyrus The hemiplegia was due entirely to pressure, for with the removal of pressure the man was regaining the use of his paralyzed limbs

Dr **JOHNSTON** again presented the infant he had brought before the Academy about two months ago (vide JOURNAL, Oct 1, 1898, p 807) In the interim he had operated upon the lumbar spina bifida, it was found to be a meningomyelocele, only a few fibers of the cauda, however, being spread out over the sac A fusiform section was taken out of the membranes and also out of the skin, and both wounds closed by separate rows of sutures The child, now five months old, made a splendid recovery, healing occurring by first intention The child had no convulsions after the operation The wound was constantly contracting into a firm scar It will be remembered that the child had also congenital clubfeet, congenital hydrocephalus and imperforate anus, the latter having been relieved a few hours after birth As far as the mother was able to tell he is as intelligent as her former children, all of whom are healthy, were at the same age

Dr **GUSTAVE ZINKE** reported five cases of abdominal section and presented specimens 1 Large interstitial fibroid, weight twelve pounds 2 Small superitoneal, multiple fibroids 3 Ovarian cyst with strangulated pedicle complicated with pregnancy 4 Ruptured tubal pregnancy (early) with hemorrhage into peritoneal cavity, supposed to have ruptured during a curettement of the uterus, abdomen opened two days after the latter operation recovery 5 Small ovarian cyst, small subperitoneal fibroid

Dr **E H SHIELDS** presented two pictures of skin affections, the first in oil, irradicable pigmentation following a specific eruption The disease had not been diagnosed by his former physician, and the patient had been taking Fowler's solution for a considerable period The Doctor thought that the arsenic was probably the cause underlying the pigmentation He did not think the condition could be relieved It was but the second instance he had seen in over a thousand cases of syphilis The second picture was a water color illustrating a case of herpes tonsurans maculosa A third case was reported and specimens presented, of small round uric acid stones about forty five in number, evacuated from the bladder, but presumably from the kidney, though the patient had never had an attack of renal colic

Detroit Medical and Library Association

Regular Meeting, December 12

Dr **L J LENNOX** read a paper on "Contracted Kidney, with Special Reference to its Syphilitic Etiology," and said that where a chronic condition, resulting in a shrunken kidney, is found with extensive destruction of the tubular substance and overgrowth of the interstitial connective tissue, the condition may be described by any of the following terms contracted kidney, cirrhotic kidney, granular degeneration of the kidney, red kidney, gouty kidney, arteriosclerotic nephritis and renal sclerosis

In describing the contracted kidney most authorities claim that in the beginning the disease is obscure, no distinctive symptoms occurring until uremia shows itself, yet some authors speak of the bounding pulse from hypertrophy of the left ventricle of the heart and a slight swelling of the feet and ankles, as directing our attention to the kidney The urine is acid, copious, except in the last stages, when it is scanty, low in specific gravity, occasionally showing the presence of albumin, which is constantly present later on in the disease Albumin like tube casts are few in number Hypertrophy of the left heart and sclerosis of the arteries is constantly present The vision is impaired, the ophthalmologist often being the first to discover the real nature of the disease

The main symptoms enumerated by the author were dizziness, headache, drowsiness, convulsions, stupor, delirium, vomiting, nausea and restlessness As to the etiology, gout was placed at the head of the list, then lead poisoning, business care and worry, hereditary influence, valvular heart disease, stone in the kidney, alcoholism, exposure to cold and syphilis The Doctor stated that most writers admit that the kidneys undergo changes both in the early and late stages of syphilis but do not give as a cause of contracted kidney enough attention to syphilitic conditions Syphilitic infection is the most potent cause in the production of arteriosclerosis, which is directly answerable for cardiac, vascular and renal lesions Syphilis is termed a blood disease, but there is very little change in the blood except in the early stages, when there is a slight diminution in the number of red blood corpuscles and a corresponding increase in the white

The Doctor concluded with a history of one case out of three he had seen of contracted kidney, preceded by syphilitic infection, in which the patient inoculated his wife, who passed through all the different stages of the disease One and a half years after the initial lesion the patient complained of a bad taste, loss of appetite, headache, constipation, accompanying a rise of temperature to 101 degrees, the patient was thought to have typhoid fever About three weeks afterward the temperature was reduced to normal and even subnormal, but still the lassitude continued The patient developed great thirst There was an excessive flow of urine, but analysis showed no albumin nor sugar, casts were absent specific gravity, 1010 to 1012 Diagnosis was interstitial nephritis As the symptoms progressed the urine became scanty and indications of uremia appeared There was no swelling of the feet or ankles, and no albumin was present in the urine At present there is hypertrophy of the left ventricle of the heart and some paralysis, as dragging of the left foot and difficulty in swallowing and articulation The diagnosis was changed to that of contracted kidney due to syphilitic lesion

PRACTICAL NOTES

Stitch Hole Infection —Troller finds after extensive investigations that the infection usually proceeds from the skin, and that the most favorable results were obtained with aluminium bronze wire for sutures, which is antiseptic in itself —*Cbl f Chir* , December 3

Orthoform for Toothache —Hildebrandt relates that the raging pain of an exposed pulp in a carious tooth was arrested at once with an application of orthoform, dissolved in warm alcohol, on cotton There was no further pain for two days, even in eating, when the tampon was renewed, as at first, with the same success —*Deutsche Med Woch* , December 1

Oxygen to Prevent Vomiting after Chloroform —Chavannaz reports twenty three anesthesias, mostly for long and important operations, in which the chloroform was followed by the inhalation of the contents of a bulb of oxygen such as is used in hospitals In fourteen there was no vomiting four vomited once, and none vomited enough to interfere with the ingestion of food *Gazette Méd Belge*, December 8

Vaginal Extirpation for Carcinoma Uteri —L Fraenkel states that 34 7 per cent of 311 cases thus operated at the Berlin Univ Gyn Clinic have been permanently cured, that is, without recurrence after five years The percentage of corpus carcinomata cured was still larger, 53 Its benefits are questionable when applied as a merely palliative measure

Radiographs in Nephrolithiasis —Ringel has established that oxalate stones cast as distinct a shadow as a bullet uric acid stones are less distinct, and phosphate stones cast no shadow at all, hence the absence of a shadow is no proof of the non existence of a stone The same is true of stones in the bladder To ensure the best results the patient should empty his bladder just before being radiographed, and in case of nephrolithiasis, the thigh should be drawn up to the body to reduce the natural lordosis —*Cbl f Chir* , December 10

Nafthalan in Eczema —J Hirschkorn writes to the *Deutsche Med Woch* of December 1 that he has been using nafthalan in fifty two cases of eczema and found that it arrested acute eczema with copious secretions in forty eight hours the skin regaining its normal appearance in three weeks at farthest In subacute and chronic cases the effect is less rapid, but still extremely satisfactory It is also valuable in eczema of the scalp, scabies and psoriasis, and especially in professional eczema, enabling the patient to resume his occupation sooner than with any other remedy

Is a Green Intestine Gangrenous?—Begoin states that he found an eight day incarcerated loop a "fine green Florentine bronze color" at the herniotomy The loop was not reduced and the patient died four hours later, when tests of the green portion proved that it was not gangrenous The portion of the intestine was filled with water at a strong pressure, and only an apparently sound part split He also states that the intestine can be colored green with bile alone, and that a light green color does not necessarily imply any alteration in the intestinal wall A yellow green, dark, black or bottle green are of worse significance, but at the same time they do not necessarily indicate a serious deterioration in the intestinal wall *Cbl f Chir* , December 2

The Toxicity of Appendicitis —Prof G Dieulafoy has lately been emphasizing the intense toxicity that may develop in the course of even the most apparently benign case In its usual benign form the toxicity is evidenced by the subicterus, urobilinuria and albuminuria Icterus, testifying to the adulteration of the liver, is sometimes the notice of a most serious intoxication, affecting the nervous system, with cerebral, bulbar or typhoid manifestations The only means to forestall these accidents is to suppress the toxi infective focus in time "No one ought ever to die of appendicitis " He distinguishes between the infective and toxic accidents, as the latter are much more rapid and fatal and necessitate more prompt intervention —*Presse Méd* , November 9

A Quinin Wash for the Scalp —The *Indian Lancet* for September 16 quotes from the *Revue de therapeutique* the following prescription, which has been used with satisfaction to prevent the falling of the hair

℞	Hydrochlorid of quinin	ʒ i	31
	Tannic acid	ʒ iii	9 3
	Alcohol (70 per cent.)	1½ pints	7161
	Tincture of cantharides	ʒ iiss	77
	Pure glycerin	ʒ iiss	77
	Eau de cologne	ʒ x	311
	Vanillin	gr 2	13
	Powdered sandalwood	ʒ i	31

This mixture, after being well mixed and shaken, is allowed to stand for four days and is then filtered It is rubbed into the scalp daily for the purpose named

Acute Mania After Cataract Operations —A man, aged [illegible] years hitherto healthy, and yet very robust was submitted to a cataract operation on the right eye The operation was most successfully and quickly performed Anesthesia was produced by six drops of a 2 per cent cocain solution In the second night after the operation, severe maniac conditions set in They lasted sixteen days Dr Fromaget attributes these conditions to a persistent constipation and retention of urine (auto intoxication) During two days anuria prevailed Afterward a small quantity of urine was voided After injections of caffein, the quantity of urine increased Such psychoses are sometimes observed after cataract operations in old people —*Annales de la Pol de Bordeaux*

Rinsing Apparatus for Microscopic Sections—G Cruz of Rio de Janeiro prevents the loss of microscopic sections of tissue which so easily escape during the necessary rinsing, by the following simple contrivance, described and illustrated in the *Ztfl f Wis Microscopie*, 1898, No 15 The fragment of tissue is placed in a conic test glass, and a glass funnel is placed in the glass, just enough smaller in its circumference than the test glass, to allow water to pass freely between the two, without space enough for the fragment of tissue to be swept along with it The water enters through a small sized glass tube, perforated at its lower end, connected by a rubber tube with the receptacle of water, and a larger funnel shaped vessel below receives the water as it passes upward between the glass and the funnel and pours out over the edge of the former —*O Brazil Médico*, November 1

Wagner and Longard's Ether Inhaler—The upper end of the mask is not open, but is shaped like a funnel with inhalation valves at the lowest part The ether is dropped into this funnel, passes through the valves and drops below on a very fine wire sieve, on which it rapidly spreads out A second sieve is at a little distance below, the space between holding a layer of gauze As the air is inhaled it carries the ether vapor with it in the finest particles, and the anesthesia is complete in a minute and a half to three minutes in women and youths Men require four to six minutes The quantity of ether is only 5 to 10 c c for children, 15 to 25 c c for women and 30 to 50 c c for men and hard drinkers The chief advantage of this inhaler is that the narcosis becomes complete while the patient is still quietly breathing, with entire absence of any period of agitation —*Cbl f Chir*, December 3

Rebreyend's Method of Circumcision—This method is based on the principle of "total resection of the mucous membrane of the prepuce with almost complete conservation of the integument sacrificing the minimum of skin to the maximum of mucosa" After anesthesia a narrow strip of skin is resected entirely around the preputial orifice, drawn out in front of the gland with forceps above and below The integument of the penis is then pushed back all around as much as possible, leaving the preputial mucosa attached to the glans fully exposed This mucosa is then slit from the front backward, with the scissors, to the back of the crown, and the two lateral flaps thus obtained are excised, leaving nothing of the mucous membrane except a narrow retrobalanic collar The raw edges of this mucous collar and the integument are then sutured with fine catgut A thin layer of salve or antiseptic powder is applied to the line of suture, which rapidly heals and is always hidden under the new fold of the prepuce, which is exclusively cutaneous Loumeau reports twenty patients, including children and old men, thus operated, with the most satisfactory results —*Gaz Méd Belge*, December 8

Electrization as a Purgative—G Hunerfauth of Eisenach has found that the galvanic anode introduced into the rectum will cure chronic cases of constipation and produce a prompt evacuation, even in normal persons when the bowels are comparatively empty The sensation of a desire for defecation lasts after the evacuation and is of the greatest benefit in cases of neurasthenia and hypochondria, who recover their confidence in the restoration of their lost functional activity Tympanism is abolished, and solid masses, even coprolithic formations, are expelled The average treatment is two to five minutes in length, the current, two to five milliamperes If there is a sensation of heat, galvano faradization is best at first, changing to the continuous current later The patient is usually reclining on his back, the legs lightly flexed on the abdomen, a bolster under his knees if desired or the treatment can be administered standing The electrode for insertion in the rectum is large, conforming to the space inside It is warmed, vaselined, inserted by the patient, and then held by the physician, who can thus control the contractions and ensur it is in contact with the rectal mucosa There are no inju effects from this treatment, which he asserts is "not o symptomaticum but a splendid curativum"—*Deutsche Med Woch*, December 1

Antitoxin in Tracheotomy for Diphtheria—At a recent meeting of the Ulster Medical Society, Mitchell (*Lancet*, Dec 10, 1898, p 1551) called attention to the prevalence of laryngeal diphtheria in the north of Ireland, as illustrated by a mortality of 3402 from this disease in Ulster during the past twenty years, while during the same period in all the rest of Ireland the deaths from the same cause numbered only 3320 The annual death rate per 100,000 in Belfast and the surrounding district is 14, while the death rate for Dublin is only 7 The beneficial effect of antitoxin in the treatment of diphtheria and the consequent reduction in mortality were pointed out, while the utility of the antitoxin was more strikingly illustrated by the cases in which tracheotomy became necessary For years there has been a firm conviction in the minds of the profession in Ulster that tracheotomy in diphtheria offers no reasonable prospect of saving life, and it was therefore performed only on rare occasions, and indeed was rarely recommended Communication with the leading surgeons throughout the province of Ulster resulted in the collection of eighty two operations performed for this disease prior to the introduction of the antitoxin Among these there were only six recoveries (7 5 per cent) A similar list since the introduction of antitoxin yielded a total of twenty operations, with fifteen recoveries (75 per cent) The value of artificial respiration after the trachea has been opened in cases in which respiration has been suddenly suspended was particularly insisted upon, and records were given of cases in which this measure had resulted in a restoration of vitality in what appeared to be a death sleep

Unguentum Crede—Soluble Silver—G Schirmer has treated nine cases of cerebrospinal meningitis with inunctions of 30 gm unguentum Credé in the course of three days, repeating an inunction of 10 gm at each remission Combined with this, very hot water compresses were applied to the spine, the nasal cavities were antiseptically cleansed as soon as the patient's condition permitted, and small doses of trional were given, if very restless All were children, and recovered rapidly, with none of the after affects so frequently observed with this disease Edwin Klebs suggests that infection may be carried through the tissues as well as along the lymph and blood system (*N Y Med Monats.*, November), by the leucocytes, which would explain the success of the inunction, and urges tests to demonstrate this, with Credé's soluble silver, as peculiarly applicable for the purpose O Werler considers that Credé has suceeded "with his systematically conducted chemic studies and bacteriologic experimentation in filling a gap in therapeutics that has been long and painfully felt by all practitioners, with the discovery of a specific which, without the slightest injury to the vital functions, removes the cause and cures the dreaded septicemic processes by its intense bactericidal power In this respect Credé's argentum colloidale is absolutely without a rival In this soluble metallic silver we have an internal therapeutic measure that can be relied upon to successfully control the blood poisoning due to septic infective substances if the diagnosis is made in time and there are no serious secondary affections" He finds also that the most effective method to apply it is in inunctions, by which means the medicament reaches the blood by percutaneous absorption, where it ensures an universal antisepsis and disinfection of the entire organism, by the formation of powerfully bactericidal silver salts He only has three cases to report (*Deutsche Med Woch*, No 40) acute sepsis, a septic affection and chronic multiple furunculosis The progress of the affection was arrested with inunction, and complete recovery followed promptly in every case (vide JOURNAL, xxx, p 1414)

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE, INCLUDING POSTAGE

Per Annum, in Advance	$5 00
Foreign Postage	2 00
Single Copies	10 Cents

In requesting change of address, give old as well as new location

Subscriptions may begin at any time and be sent to
The Journal of the American Medical Association
No 61 Market Street (Occidental Bldgs), Chicago Illinois

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION

This is obtainable, at any time by a member of any State or local Medical Society which is entitled to send delegates to the Association All that is necessary is for the applicant to write to the Treasurer of the Association, Dr Henry P Newman, 100 Washington St , Chicago, Ill , sending him a certificate or statement that the applicant is in good standing in his own Society, signed by the President and Secretary of said Society Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership

On receipt of the subscription the weekly Journal of the Association will be forwarded regularly

Gentlemen already members of the Association should send their annual subscription to the Treasurer or direct to the Journal office

All communications and manuscript of whatever character intended for publication in the Journal should be addressed to the *Editor* and all communications relative to the business of the Journal proof sheets returned, or in regard to subscriptions should be addressed to The Journal of the American Medical Association, 61 Market Street (Occidental Buildings), Chicago

Original communications are only received with the understanding that they are exclusively contributed to this Journal

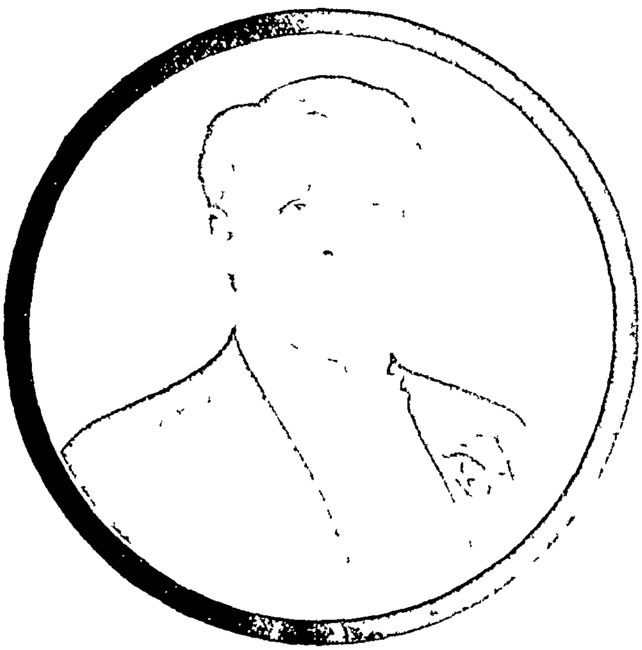
SATURDAY, DECEMBER 31, 1898

DEATH OF JOHN B HAMILTON, M D , LL D

It is our painful duty to record the death of the Editor of the Journal of the American Medical Association on the evening of Dec 24, 1898, at his residence at Elgin, Ill The immediate cause of his decease was hemorrhage from a perforation of the intestine, communicating with a large abscess outside of the bowel, which terminated life after an illness of less than one month

It seems hardly necessary at the present time to enter upon a detailed narrative of the life of one who was so widely and well known throughout the entire country Born in Jersey County, Ill , on Dec 1, 1847, his years numbered only fifty-one, but they were years that were crowded with incidents sufficient for centuries of ordinary human experience Descended from a long line of distinguished Scottish ancestors, his father's family was brought up on the rich prairies of the Mississippi Valley, enjoying such opportunities for early education as were afforded by the village school, the country academy and the classic courses founded by Prof John Grant, a learned Latin teacher from Edinburgh, who had found his way to the heart of America Thus trained and exercised in all the practical affairs of country life, from the hay-field to the village printing-office and drug store, young Hamilton, at the age of 17 years found himself drawn into the vortex of the Civil War where he acquired that experimental knowledge of military life and discipline that was of such value to him during the remainder of his days At the close of the war he returned to civil life, with an appetite for study intensified by the exercises of the field Entering Rush Medical College, Chicago, he was graduated three years later with high honors and immediately began the practice of medicine in his native county Soon, however, he concluded to essay the career of a military surgeon, and returned to the army of the United States as an assistant surgeon Transferred from post to post, he rapidly became acquainted with the vast extent of our territory, and in positions of responsibility gave evidence of that rare ability for the organization and direction of great enterprises that was the prominent feature of his character

In the year 1876 he transferred his connections, upon most honorable terms, to the United States Marine Hospital Service In this service his superior powers at once asserted themselves He was rapidly transferred by promotion through the round of important stations, rising in rank till within three or four years he had reached the position of Surgeon-General of the United States Marine Hospital Service This high office he retained through several different administrations of the National government, winning golden opinions alike from political friends and foes During this period he effected a complete reorganization of the Service and contended successfully against repeated invasions of the country by epidemic cholera and yellow fever Under his direction a rational system of quarantine and isolation was adopted, the necessary encampments were established, and panic gave way to intelligent confidence In the halls of legislation his influence was as beneficently potent as in the field of medical action and it is no exaggeration to claim that the most important acts for the security of the public



Dr John B Hamilton

health by the National Legislature during the past twenty years were originated and guided by the enlightened intellect of Surgeon-General HAMILTON

But the attractions of civil life finally drew DR HAMILTON from the sphere in which he had been so long pre-eminent Always fond of books and the scholastic side of existence, his library grew till it became one of the largest private collections in America He was Professor of Surgery in the University of Georgetown, and was as actively engaged in private surgical practice as the arduous duties of his high office would permit Called to the chair of the Principles of Surgery in Rush Medical College, he resigned all his positions in Washington, and removed to Chicago in 1892

It is at this point that the principal interest of the JOURNAL in DR HAMILTON is centered For many years an active member of the AMERICAN MEDICAL ASSOCIATION, he was well and widely known to the members of that National body An almost universal acclamation summoned him to the editorship of the newly-fledged publication which had undertaken to be the organ of communication between the ASSOCIATION and the medical public at large The JOURNAL was young in years, and its management was inexperienced, and with comparatively little weight beyond the limits of the editorial sanctum DR HAMILTON at once deployed all his administrative faculties, placed everything upon a business basis, and before his death enjoyed the satisfaction of seeing the JOURNAL in the front rank of the medical publications of the world

Could he have remained satisfied with this victory, DR HAMILTON might possibly have continued for many years upon earth in the full exercise of his beneficent powers The leading sanitarian of the country, in all matters of National interest, his advice was sought in every quarter No medical gathering of National or International importance was complete without his presence His vigorous form, his genial countenance, radiant with energy and good-will, his persuasive voice, were never-to-be forgotten features in every such assembly At home his professional duties, his hospital work, his extensive private practice, were enough to wear out any ordinary man, but he was ever ready to expend his energies in behalf of any worthy cause that appealed to him for aid In this way he gave much time and thought to the organization of the new Public Library in Chicago, and was most efficient as President of its Board of Trustees To the surprise of his friends, despite this accumulation of cares, he accepted, in 1896-7, the position of Superintendent of the Northern Illinois Hospital for the Insane, at Elgin, Ill —an office that heretofore was always considered sufficient to occupy the whole time of an ordinary official incumbent But the DOCTOR speedily showed his mettle by a reorganization of the administration that secured improvement in the care of patients, while leaving time for all his other labors—thus illustrating the old observation that among first-class administrators the busiest men still have the most leisure

Now, alas, this career of action has reached its limit As we look back upon its years we can more fully than ever appreciate its magnitude and its beneficent efficiency DR HAMILTON was fortunate in finding full scope for his remarkable power as a founder and organizer of incipient enterprises He was fortunate, also, in being permitted to witness the success of his efforts, and he was doubly fortunate in being called to his reward before age or misfortune or any of the ills of life could dim the splendor of his reputation He has gone, but his works live, and will forever exhibit the impress of his constructive power

THE PATHOLOGY OF THE PINEAL GLAND

If the proverb, "Happy is the nation that has no history," be true for other organisms in general, then the pineal body ought to be regarded as a most fortunate organ That it has had a history and a most curious one, we have abundant proof, but that was long ago, in the Age of Reptiles, to which the memory of man runneth back or reverteth only under the influence of strong drink, and for the last quarter of a million years, at least, it has absolutely ceased to have a physiology or even a pathology It lies among the brain tissues as inert and almost as irresponsive to the forces about it as a fossil in the chalk beds That it can continue to so exist generation after generation is proof either of services of extraordinary value rendered in the past, or some as yet unsuspected function in the present Comparative morphology assures us that it was probably once a median or "vertical" eye, which still exists in some nearly extinct lizards (Hatteria) and possibly at an even remoter period the opening of the primitive mouth, of which its interesting relative, the pituitary body, was the gullet That it originally reached the roof of the cranium is of course certain, having been pushed down into its present central position by the huge development and backward growth of the originally anterior cerebral hemispheres, which now cover, in our own species, even the cerebellum or "hindmost brain" But unfortunately these facts give us no clue whatever to its possible rôle in the body economy, for it obviously can not now function in any way as either an eye or a mouth, or anything connected with either

Nor is there any help to be had from a study of its histology According to the latest researches (OGLE, LORD) it consists of a dense connective tissue capsule from which fibers pass into the interior and form a loose reticulum for the body In the meshes of this network are lodged rounded and oval nucleated cells, whose protoplasm shows a tendency to become either colloid or amyloid, and by fusing with that of other cells gives rise to the *corpora amylacea*, or "starch grain," concentric-layered bodies In the fibers of the stroma are found the calcareous particles known as "brain sand " Nothing that can be clearly identified as nervous tissue remains, although there are a few large columnar cells resembling the "rods' of the retina Like its now celebrated congener, the pituitary body, it was originally a hollow organ and occasionally traces of the central cavity are yet found

On account of its central position and the way in which it is wrapped up in the choroid plexus, any attempt to remove it in animals must be attended by such serious injuries to the brain and its internal circulation as to give little hope of any reliable results from experiments in that direction

Its pathology seems almost equally characterless It may perhaps be said to possess the usual tendency of all vestiges to give rise to tumor-formation, for considering its small size and sheltered position, a relatively large number of new growths have been reported The commonest of these, however, are simple cysts formed by dilatation of the central cavity, then comes sarcomata, then gummata, and the only form that is at all characteristic of the gland is the psammoma, or concentrically-layered tumor, with or without calcareous deposits

Worse yet, with the possible exception to be mentioned later, none of these tumors have given rise to any recognizable symptoms whatever pointing to any disturbance of brain or glandular function, other than that due to the pressure of the growth upon surrounding tissues

A recent meeting of the Pathologic Society at London was devoted entirely to the pathology of this gland and fourteen cases were reported by the members present, specimens being shown from ten of them Seven were cysts, four sarcomata, one glioma, one gummatous enlargement and one calcareous deposit One of the cysts was interesting from the fact that its inner surface was lined with cells containing large amounts of pigment, in the very situation where the choroid coat lay in the ancestral eye, and curiously enough, several of the sarcomata were pigmented ones After the reports of cases were all in the president called for remarks upon the general subject, but the absolute silence which followed was eloquent of the state of our knowledge of the gland even today In all the cases reported there was only one ,symptom which was in any way peculiar or was common to more than two of them, and that was prolonged drowsiness, which was present in four This was of long duration, lasting in one case for three months, and was of unusual character as it never approached coma and the patient could be readily roused at any time, or would even answer questions without apparently awakening As Dr Ogle, who reported six out of the fourteen cases, pointed out this was most probably due to pressure upon the choroid plexus and interference with the circulation of the ventricles, but it is an interesting coincidence that Dr Patrick Manson has reported the pineal body as found greatly enlarged in two cases of the singular African "sleeping-sickness " The drowsiness of this disease is precisely of this peculiar, easily-roused and chronic character, lasting for months and gradually deepening into asthenia, unconsciousness, convulsions and death As there are two advanced cases of this disease in the Seamen's Hospital at the Albert Docks at present, the cranial results of the autopsies will be awaited with much interest

VALUE OF TRANSFUSION

This operation was known as long ago as the year of the discovery of America, having been performed at that time, according to some authorities, on Pope Innocent VIII It was not used to any extent, however, until the beginning of the present century, while it has only been of late years that its value in its various modifications has become very widely recognized At first performed only for dangerous loss of blood, it has in addition proved most valuable in shock, in uremic and diabetic coma, and in the various affections accompanied by sepsis During the infancy of the operation, direct transfusion of blood from vessel to vessel was practiced, but this was soon discarded on account of its great difficulties and danger, and some bland and harmless solution was substituted For when blood was transfused, thrombotic and embolic processes were of common occurrence and often resulted disastrously In addition it was found that the injected blood corpuscles were rapidly disintegrated, naturally giving rise to dangerous embolic symptoms, and further, that any good accomplished was done by the fluid portions of the blood alone These investigations were pursued still further until it was at length discovered that it was the quantity, and not the quality, to which the beneficent results could be attributed, and that the fluid acted by increasing the intracardiac and intravascular pressure At the present day a normal or 0 6 per cent sodium chlorid solution is used

Another improvement in operation was introduced when it was found that the fluid could be injected into the subcutaneous tissues, preferably those of the right chest, abdomen and buttocks, from which tissues it would be rapidly absorbed The advantage in this method is that it can be quickly and safely done, and that it can be performed while operative procedures are directed to other parts of the body The solution is rapidly brought to the boiling point and then cooled to 100 degrees F, when it is ready for using, all instruments having been thoroughly sterilized by heat Some operators pour the solution into a large funnel connected with the canula by a long rubber tube and holding the funnel several feet above the patient, use the pressure thus created to enforce the fluid Perhaps a better way, and certainly a more rapid one, is the use of the ordinary Davidson syringe attached to the canula

When the indication is most urgent, and particularly where there are septic symptoms to be combated, an emptying of the vessels of their deteriorated blood and the injection of the saline fluid directly into the vessels (veins) has been advocated, and in a case recently reported by YOUNG (*Maryland Med Journ*, Nov 19, 1898), performed with the greatest success The patient, a boy of 15 years, had been operated on for purulent appendicitis, the pus fortunately having been walled in by extensive adhesions Immediately after the operation the patient was in fairly good condition, but toward evening rapidly became worse There were, however, no local signs that the peritoneum had been involved When the pulse had reached almost 150, with a corresponding high temperature, he was given a nutrient enema, followed by the injection of 700 c c of saline solution into the right breast, and by lavage of the stomach This brought about a considerable improvement in his condition The next day after the operation he again became progressively worse, and the peritoneum still being apparently free, it was thought that he had developed a general septicemia Venesection and transfusion were then decided upon for the double purpose of first withdrawing, and secondly diluting the poisonous material remaining in the circulation The right basilic vein was opened, but only about two and one-half ounces of blood could be abstracted, so weak was the heart's action, 1300 c c of saline solution were then slowly injected, and during the operation itself the condition steadily improved The next morning the symptoms again becoming dangerous, 2500 c c were used intravenously, with the result that the boy was soon practically out of danger

The history of this case has been entered into rather in detail for an article of this kind, but all must admit the importance of the lessons taught by it In the first place, very few cases, if any, have been reported in which so large an amount of fluid has been injected One of the most important points in this double method of venesection and transfusion is that they can be done simultaneously, using one arm for the former, the other for the latter In this manner the blood-pressure can be readily maintained, a most valuable consideration in a state where circulatory functions are so greatly below par A third point, as suggested by YOUNG, is that the use of large quantities, intravenously, washes out the veins, as it were, and perhaps to a small extent neutralizes the poisons contained in the blood—certainly dilutes them In most of the conditions in which this method of treatment was employed, the kidneys, as a rule, are not functionating to an extent anything like normal The introduction of this fluid into the body by increasing the blood-pressure and the amount of fluid into the body tissues as well, to some degree, acts as a diuretic, and even the smallest gain in this direction often means the saving of the patient YOUNG also touches upon an important speculation as to how much dilution the blood is able to stand He estimates that the body of a normal adult man contains about 4500 c c of blood His patient, he feels sure, had much less, yet 4500 c c were thrown into his vascular system and with the greatest benefit He argues from this fact, that his primary injections resulted in but temporary benefit, that large amounts of the salt solution should be used at the beginning, advocating in an adult man as high as 7000 c c He does not think that the small quantities so frequently given will ever be very efficacious Among other conditions in which these injections might prove of service, the toxic conditions commonly observed in the acute infections, typhoid, and particularly the coma of pernicious malarial fever, must receive special consideration Of their use in the former disease there is no literature at hand, but in malarial coma several cases are on record with favorable results

Lastly, the injection of these fluids into the arteries deserves brief mention It was thought by HUNTER that this method lessened the danger by bringing the blood more gradually into the general circulation Even if some air were admitted it would here work little or no harm, while if air were received into the veins, venous thrombi might form, which would undoubtedly seriously embarrass the heart's action The radial artery is the one recommended by HALSTEAD for injection, and the latter authority lays particular stress on the value of this form of operation in fat subjects

BUBONIC PLAGUE

The appearance of this disease in Vienna has created some sensation, and has startled experimenters and laboratory workers It appears that Drs ALBRECHT and GHON brought from Bombay the bacilli of this disease, and began a series of cultivations and experiments in the laboratory Animals were inoculated and examined after death and the specific bacillus was isolated and transferred to different animals, and inoculation as a means of prevention was studied

This work has been going on for over a year with many very interesting results The two physicians and an attendant were the only persons who came in direct contact with the virus The attendant fed the animals experimented upon, handled them, and cleaned the floors, and observed all the precautions supposed necessary to prevent accident He also disposed of the carcasses of the animals Suddenly he was seized with the plague and died Two nurses who attended him were taken with the same plague and died also Dr **Muller**, an expert, who had been in India studying the same epidemic on the spot, and who visited the attendant, was also seized with the same disease and died

All the three physicians had been engaged in the profuse cultivation of this bacillus in its most virulent form and in the study of means of prevention, and were experienced bacteriologists They knew of the danger and had provided against accidents up to this time It appears from a court examination that the attendant, although a trained man and very careful, was often under the influence of spirits It is supposed that he must have neglected some sanitary precaution in laying down his pipe in an infected place and using it again, or in failing to wash his hands after handling the animals The nurses and the doctor were equally incautious and lost their lives through this neglect

The facts pointed out by the foreign journals commenting on this event are that very few accidents occur in the extensive laboratory examinations now going on in all the large cities The most virulent poisons and bacilli are cultivated and handled without accidents, showing what intelligent care and exact work can do Of course this event gives renewed emphasis to the danger from this bacillus, and shows that the plague can be grown and spread in any community by the slightest neglect of sanitary conditions

The London *Times*, after describing this incident, makes a strong plea for greater caution and care in the many infectious diseases which pervade the community and are neglected The soil for the growth of diphtheria, tuberculosis, and other diseases, is found in all communities, only needing the germ to start into great activity The hospitals and other places where medical men are exposed, are not yet managed as they should be to avoid the danger of these virulent germs Every year physicians and nurses die from neglect and carelessness, both personal and official The teachings of laboratories are enforcing the fact in many ways, that most diseases are entities which can be provided against and prevented, also that the germs can be transmitted and carried, cultivated and grown with certainty

The great study of the present time is to trace these germs back to their sources, to stop their growth, to direct and control them This plague is one of the great epidemics of tropical countries It is mysterious, virulent, and usually fatal A study of the bacillus and its culture has already thrown much light on the causes, and gives promise of prevention by inoculation, and also the possibility of some serum being found to render the person immune from its infection To the investigations of the laboratories we must look for light on the subtle bacterial enemies, and the means to control and prevent them

COMMENTS ON THE WORK OF THE ARMY MEDICAL DEPARTMENT

We have read with much interest the comments of our contemporaries on the work of the Army Medical Department during the Spanish War, as presented to the profession in the abstract of the Report of the Surgeon-General published in the Journal of December 3 So far as we can learn, the general view of the profession agrees with our own that the document is an able presentation of the facts, and a clear and impartial statement of all the conditions bearing on them, such as might have been expected from a scientific man whose only object was to reach the truth and enable others to do so also The difficulties which beset the path of the Surgeon General of the Army are set forth so clearly that one must be an unthinking reader who fails to appreciate the causes which led to unsatisfactory results in particular instances although these causes may not be specified in each particular connection

The conclusion which we have reached appears to be that which has been attained by most of our contemporaries, that in view of all the facts it is but just to say that "the efforts of the Surgeon General and his medical officers to meet the terrors of war were extraordinary, and challenge admiration" That these efforts failed to fulfill their intention of preventing the occurrence of preventable diseases was due to the impossibility of controlling the ignorance of the many by the knowledge of the few We, as a profession, pride ourselves on our recent advances in sanitary knowledge and particularly as to the prevention of typhoid fever, and we teach that sporadic imported cases are the only cases that should be permitted to appear on the hospital registers of a well diciplined camp The Surgeon-General of the Army and his officers knew this as thoroughly as we do, but it was impossible for him and them to hold in control the ignorance of the large number of undisciplined men aggregated in our camps during the past few months We reached this conclusion long before the report of the Surgeon General was made public On Sept 24, 1898, we stated, in these columns "It is very evident to one who looks on from the outside, that the difficulties encountered by the Army Medical Department were due to the impossibility of having, in so short a time, an experienced and well-disciplined medical force sufficiently *strong* in numbers to control the sanitary situation in an aggregation of a quarter of a million of men hurriedly thrown together in military camps' Although the profession as a whole may take a high position on sanitary grounds and claim the ability to protect from certain diseases, the ability of the individual medical man is limited by many and powerful combinations of conditions One medical weekly considers it shameful that typhoid fever should have spread in our camps, but we do not *take such high ground as* this Typhoid fever has heretofore been a dangerous visitant in every camp of newly-raised troops When sanitary knowledge is generally diffused and sanitary rules are universally appreciated and followed, we may expect a change in this respect, but recent events have shown that it is too soon to expect this now All we can do is to strive earnestly for betterment The daily press has thrown the blame of the occurrence of preventable diseases in our camps on the shoulders of the Surgeon General, forgetful that if the doctor is to be held responsible, it is not the Surgeon-General, but the regimental surgeon who should be arraigned, for if each regimental surgeon had been an efficient practical sanitarian, able to combat sucessfully against his insanitary surroundings, there would have been no typhoid fever in the brigades, divisions or corps One New York daily claimed that the difficulties encountered by the Medical Department were due to a want, on the part of the Surgeon-General, of that general executive ability to put his extensive knowledge to effective use A valued Eastern journal replied pertinently to this by comparing the conditions suddenly placed before the Surgeon-General of the Army at the outbreak of the war, with those confronting the manager of a large department store whose business, suddenly increased ten-fold, had to be carried on by a 900 per cent addition of awkward and unskilled labor to his regular force of trained workers The powers of one man, however forceful, intelligent, skilled and highly educated, are limited He might be capable of directing and organizing an enormous force of trained employees under trained subordinates, but if the bulk of the material is raw, and unused to the special methods and routine of the work, it is beyond the limit of human power that one man should be able to control the working Not only was the Surgeon-General unable to do this but each of his subordinate officers, chief surgeons of corps and divisions and in charge of large hospitals, had to cope with the same difficult duty of attempting to make bricks without straw, or to make skilled out of unskilled labor, while hampered by an insufficiency of even the raw material

We regret to find one medical weekly reiterating this charge of the daily paragrapher and laboring heavily to sustain the position assumed, to-wit, that with an earnest and forceful man at the head of affairs the medical history of the war would have read differently An astonishing amount of ignorance is displayed in the attempt to build up the argument ignorance of the history of the Medical Department, of the history of the present Surgeon-General, and of the history of the war as stated in the report which gives rise to the criticism Medical men, in their intercourse with the laity, have frequently occasion to note how the intricacies of a difficult technic subject can be overlooked and the whole be grasped to his own satisfaction by one who has but little knowledge of the subject Bold assumptions are brought forward to clear away difficulties and make the path straight Some thoughts of this kind arise in our mind as we read that the inadequate number of officers of the Medical Department ought to have been recognized by the Surgeon-General before the events of the war forced its recognition upon him The assumption that nothing was done by Surgeon-General STERNBERG or his predecessors in office is not borne out by the history of the Department Again, the editor brings into prominence the rush service, which was so creditable to the energy of the Surgeon-General, as demonstrating only a discreditable lack of intelligent preparation Every newspaper knows that the hands of the Secretary of War, as of the Surgeon-General, were tied until Congress had taken action in the case The Secretary of War can no more be blamed for failing to have 250,000 disciplined men on hand, prior to the declaration of war than can the Surgeon-General for failing to have a field medical equipment for such an army Neither could act until Congress had given the authorization and provided the funds The ignorance displayed becomes somewhat less childlike when the credit given to Lieut-Col J V D MIDDLETON for his able management of medical affairs on the Pacific Coast and in fitting out the Philippine expeditions, is twisted into a reflection on Dr STERNBERG's administration The insinuation is made that Dr MIDDLETON was too far away to be hampered by central office bonds This is strange and suggestive of an animus, for in the Surgeon-General's report are numerous instances of difficulties surmounted by subordinates as soon as they put themselves in communication with the central office in Washington The prime reason why the medical supplies of the Philippine expeditions were always on hand when required was because Dr MIDDLETON was independent of the Quartermaster's Department His depot was within a block or two of the wharves, and instead of having to turn supplies over to the Quartermaster for transportation, he was able to have them delivered direct

The existence of an animus suggested by the insinuated assumption just mentioned is strengthened when we find the editorial columns lowered to the following personality

> When a man who had reached the Surgeon Generalcy through political methods, whose life training had been that of a laboratory man, whose life had been practically devoted to research work in bacteriology—and good work it had been—is brought suddenly face to face with the problem of the nation in war, it is not surprising that he should have found it impossible to meet the conditions

Those who know most of the history of the Army Medical Department know that politics had nothing to do with Dr STERNBERG's elevation to his present high position His selection by Mr CLEVELAND was due to the ability which he showed in discharging duties in connection with National and international sanitation Nor has his life training been that of a laboratory man, for his work for twenty years had been that of an army surgeon until his assignment on the Havana Commission imposed bacteriologic work upon him, and this new work, as the world knows, was done as efficiently as that earlier work which, though less generally known, sufficed to bring him into prominence as the best man for this important assignment

Few of our contemporaries have discussed the remedial measures for the conditions described by the Surgeon-General The medical weekly last cited proposes a vague reorganization with, "A commission of a dozen or more men, leaders in the profession, experts in special branches—in hygiene, sanitation, medicine, surgery, pathology and bacteriology—might be selected throughout the country and made an advisory body" We submit this proposition of a commission of able men who know nothing of military matters for what it is worth For our own part, the remedial measures appear to be simple Strengthen the Medical Department of the Army by making its numbers sufficient, and increase its efficiency by liberating it from its dependence on the Quartermaster's Department

CORRESPONDENCE

The Commission Evil

New York City, Dec 19, 1898

To the Editor —In response to my request for specific information about instances in which the specialist has paid commission to the general practitioner for referred cases, I have received several communications which indicate that the practice is not uncommon in a section of our country which is renowned for its "hustling" spirit Personal inquiry among representative members of the profession in New York convinces me that my first impression was right, and that a division of the fee is never likely to become a practice here excepting in instances where the patient agrees to pay a definite sum for the entire management of the case This is rare, and would be an openly conducted transaction I am in a position to see two sides of the matter I have dropped from my practice everything excepting operative surgery, but during the year a good many other sorts of cases come in, which are referred to men who I believe are best authority If any one of these men had been in the habit of offering a commission it certainly would have come to my knowledge, and further, he certainly would never have another one of my cases On the other hand, I am constantly in contact with physicians who bring cases from all over the country, and not one of them has ever suggested that he would like a commission As some of these physicians have come from the commission infected area, they must have lost the symptoms on arrival in our atmosphere

Payment of commissions would undermine the very pillars and foundation of responsible medical service, and would instantly bring us down into competition with charlatans It is apparently a fact, however, that the commission evil has gained a foothold in a small part of the country, and perhaps very good land has been invaded by the Russian thistle In order to keep reputable specialists who are subjected to the unfortunate influence of the commission evil, I propose that at the next meeting of the American Medical Association a resolution be adopted to the effect that any practitioner of medicine who gives or receives a commission for cases referred to or by him, shall be expelled from membership in the Association I also propose that specially printed, conspicuous cards bearing a copy of this resolution be given to the secretary of the Association for distribution to applicants Any one who needs to protect himself can display the card in a manner suitable to an occasion

Robert T Morris, M D

Carcinoma of Breast and Tubercular Abscess

Sac City, Iowa, Dec 20, 1898

To the Editor —The apparently increasing tendency of tubercular abscess and carcinoma of the mammary region leads the writer to briefly recite the history of a case on whom he operated for such affections

Mrs S , white, 30 years of age, called at my office for treatment for rheumatism, complaining of intense pain in the chest She had constant dread of cancer of the breast On the right breast, just below the nipple, a growth was noticed, about the size of a walnut The other breast was normal There was enlargement of ankle joint, pain in the fingers, but the glands did not seem to be enlarged There was discoloration of the right nipple which was somewhat retracted There was a history of tuberculosis on the father s side, and one aunt and sister had been operated on for cancer Her urine was acid in reaction, sp gr 1025, excess of urates, pulse 80, temperature 100 degrees The child had been taking the left breast, so I advised removing it at once and recommended thorough operative interference She submitted, and on Nov 28, 1898, I removed the growth from the breast Abscess was also found in front of the tumor

She rallied from the effects of the operation, and after three weeks was able to attend to her household duties and seems to be gradually improving

I examined the specimen and found tubercle bacilli in the abscess around the growth In the middle of the growth a specimen was taken and prepared for microscopic examination, and the cancer cells could be plainly seen Is there any connection between tuberculosis and cancer in regard to the germ theory?

Lewis E [illegible] M D

PUBLIC HEALTH

Plague Epidemic in Samarcand —The prompt and effective measures of the Russian Government seem to have stamped out the plague in Russian Turkestan In the first three weeks 219 died, but only 19 since and no new cases have been reported of late Medical observation stations were established all over the country, forming a close cordon around the infected village and along all the roads, stations and ports on the Caspian, with flying medical squadrons constantly on the alert, and reserves of physicians in all the principal Russian and Siberian cities The *St Petersburg Med Woch* states that the physicians on duty in Samarcand are to receive 300 roubles for their three months service

The Spread of Tuberculosis —Dr Russell city health officer of Glasgow, Scotland in an official report corroborates the long entertained views of investigators He points out that in respect to phthisis which is the chief form of tubercular disease from which aerial infection can arise, the whole of prophylaxis may almost be summed up in individual care to prevent the dissemination of dried sputum in dust and in the general adoption of improved dwellings to avoid overcrowding and to insure ample sunlight and free movement of air In fact the risk of direct communication of the disease from the sick to the healthy is really as nothing, compared with the overloading of the atmosphere with infected dust, which may be introduced with food as well as inhaled Another notable point made in this report is that of the factor of individual vulnerability—the removal of the natural barriers to the entrance of bacilli by catarrh and ulceration, and the lowered vitality of blood and tissue, which enables the invading microbe to prevail in the struggle for existence

Notes for Health —A journal for invalids offers the following *mélange* to its readers "Rest is a find medicine Let your stomach rest, ye dyspeptics, let your brain rest, you wearied and worried men of business (Carlyle) A cup of very hot milk taken at bedtime will effectually prevent sleeplessness An old physician once said 'If people fully realized what it means to themselves to laugh, and then laughed as they should, 98 per cent of the doctors would have to go out of business' A plentiful diet of onions served in various ways, will protect children from many ills (*Boston Cooking School Magazine*) The perfume of flowers adds activity to all organs, especially those of digestion For this reason, among others, the guests at banquets in ancient times were crowned with roses"

Dangerous Filters —Persons who rely upon domestic filters to purify water for household use will be interested to learn that, on the authority of the State Board of Health of Maryland, such filters may steadily lose efficiency until they become first-rate culture beds for bacteria An example cited is that in the case of a man in Baltimore who sends the whole water supply of his house through a large filter, and subsequently puts his drinking water through one of the small domestic filters common in the market A test showed that on a day when the city taps were running 510 bacteria to the cubic centimeter, the large filter was delivering 9900 bacteria in the same quantity of water When the large filter was repacked, only nine bacteria per centimeter got through it, but this same water, when passed through the small filter came out with seventy one bacteria per centimeter A further example cited is from the office of the Baltimore Heath Department, where a filter, supposed to be the best in the market, was in use The effectiveness of that filter was so short lived that the precaution was observed of boiling the water after it was filtered —*Sanitary Record*

New Orleans Board of Health and Yellow Fever —This Board has published a circular addressed especially to the medical profession, anticipating a visitation by yellow fever the coming year It signalizes the importance of educating the public in preventive measures Some of the suggestions offered are the following "It is a well known fact that sunlight and oxygen destroy the germs of disease In the case of yellow fever, cold is a potent factor in such destruction Let us then give Nature a chance, during the present winter, to destroy with her own inexpensive agents any possible remaining vestige of infection left over from the summer Let our houses be thrown open on every cold and clear day as much as is practicable, more especially the bedrooms Let the clothes and bedding, curtains and all woolen, linen, and cotton materials be frequently aired and sunned And most particularly let the clothes worn during the past summer be frequently subjected to the disinfecting influences of cold, fresh air and sunlight Trunks, chests, armors, closets and bureau drawers should be opened and emptied of their contents during cold and clear weather, and fresh, cold air should be permitted to circulate in the remotest corners of the house among articles which can not be moved to the sunlight"—*N O Med Surg Jour*, December

Radical Measures for the Obliteration of Malarial Attacks —Levkovicz, in the *Przeglod Cl arski*, offers a peculiar recommendation for the radical cinchonization of the entire population of a fever infested district His scheme is to so organize the procedure that during one and the same winter all cases of malarial fever should be brought to a conclusion, either by recovery or, in fatal cases, death In this way the site of infection would be destroyed, and in the coming spring no new cases of malarial disease would be observed But, as it is next to impossible to locate all malarial patients in a given region, he suggests and recommends submitting the whole population in said malarial regions, *nolens volens*, to a treatment of quinin For adults, he would prescribe one gram, or 15 grains, per diem, children, according to their age, a corresponding quantity This treatment should be employed as a prophylactic during a fortnight In the old paternal governments of Europe such a suggestion, if approved by the home secretary, may become a sanitary police regulation and be enforced; but a similar suggestion would have little chance of successful hearing in these United States where personal and individual liberty is so highly prized and so jealously guarded that even a universal vaccination of the virus of smallpox can not become, or at least has not become as yet, a matter of legislation, and only by the indirect means of exclusion from the public schools, or in the army and navy by direct regulation, has the administration or have the State sanitary authorities been able to make propaganda in this respect But the mere idea to submit a whole population, or part of a population, whether they wish it or not, when yet healthy, to such a treatment, would seem to the majority of the people utterly absurd —*New Orleans Med and Surg Jour*, December

Medical Inspection in Municipal Schools —The municipal authorities of Berlin have decided to appoint medical officers to the municipal schools This step will certainly meet with the general approval of the medical profession, which has for a long time past recommended medical supervision of schools According to the instructions drawn up by the municipal school board, the duties of these medical officers will be as follows 1 They will examine children as to their state of health before they enter a school, 2, in cases of bodily or mental abnormalities they may recommend the adoption of special instruction, 3, they will have to look after children who are absent from school without sufficient reasons, 4, they will have to advise the head master in cases of infectious diseases, 5, they must give notice to the school board when they have found the health of the children unfavorably affected by the unhygienic conditions of a school, 6, they will have to be present at a certain hour at the school once a fortnight so that the masters may obtain their advice in individual cases, 7, they will have to control the class rooms without reference to the hours of instruction, 8, all the medical officers of schools will have to meet regularly under the presidency of a member of the school board to discuss matters relative to the hygienic conditions of schools, etc The duties of these medical officers will thus be rather complex, and a good deal of tact will be required on the part of these gentlemen to avoid friction with the teachers or with the family medical attendants of the children A large proportion of school managers and teachers is opposed to the appointment of these medical officers because they are anxious that their own authority shall be supreme in everything that belongs to the schools, and they are of opinion that the medical men may eventually undermine discipline These apprehensions, however, seem to be unfounded, for a similar system has given satisfactory results in other towns, for instance, in Wiesbaden —London *Lancet*, November 19

An English Life Table —We have before us a recent report by Dr Tattersall, the medical officer of health of Oldham, in which he has published a life table for that city that will prove to be an additional evidence that the only completely trustworthy means of measuring the incidence of mortality in a given locality is gradually coming into more general use This is the seventh in the series of life tables dealing with the mortality of different English towns during the decennium 1882–90 These, in the order of their appearance, so far as we can remember, were for Manchester, Brighton, Glasgow, London, Portsmouth and Haydock. According to *Public Health* for October, this latest report is a valuable addition to the list especially as it is the only one except the life table for Brighton which is constructed by the graphic method first applied to this purpose by Dr Newsholme Dr Tattersall reproduces the description of the graphic method from the Brighton life-table, and his four plates are excellent practical illustrations of the method, which will be useful to others who decide to adopt this comparatively simple and very elegant method of obtaining the necessary data for a life table The method is not only very elegant, but accurate Some of the main results of the life-table may be briefly mentioned The expectation of life at birth in Oldham for males is 36 9 years, as compared with 34 7 in Manchester, 35 2 in Glasgow, and 43 6 in Brighton while at the age of 10 the expectations of life, taking the towns in the same order, are 43 8, 42.7, 44.3 and 40 1 years It is somewhat surprising to find, as Dr Tattersall points out, that the expectation of life in Oldham is so little better than in Glasgow, in view of the facts that the population of Oldham is very well paid, well fed and well housed Something may be due to the bleak and exposed position of the town, on the verge of the Pennines and built on clay This view is supported by the excessive mortality among the old people, though all ages show an excess Thus, among 100,000 males born, the number surviving in Oldham at 10 years of age is 67,157 as compared with 81,182 in the healthy districts, while at the age of 60 years there are only 27,308 left, against 52 507 in the healthy districts Thus, while under favorable conditions more than half the children born are remaining alive at 60 years of age in Oldham little more than a quarter survive

Soil Disturbance and Malarial Fever—The *Indian Medical Record* contains an article by Dr Moore of Darjeeling, in which he contends that disturbance of the soil has come to be inculpated as the cause of malarial fever more frequently than is just and proper In the extensive construction of canals and railroads frequent outbreaks of malarial fever occur, but is it not more likely that the cause is the waterlogged condition of the soil due to the subsoil drainage being interfered with, and not the soil disturbance? He cites two instances of outbreaks of malarial fever occurring in France, said to be caused by the extensive disturbance of the soil in constructing railways When agricultural colonies are founded in Algiers these outbreaks occur M. Armand, in his very able work, "L' Algerie Medicale," explains this as being due to the hardships endured from defective food, less refreshing sleep, exposure, more continued, and more directly the vicissitudes of the climate, to which the rising colony is exposed during the endemio epidemic season Considering that the fact of being in camp all the summer has a deteriorating effect upon the health of the men, even when no work is done, how much more will the effect be felt when all the fatigue attending the establishment of a colony has to be encountered The work of installation and construction does not involve as much disturbance of the soil as the subsequent tillage of the land, yet it is during the first summer that the state of the men's health is least satisfactory The same statement applied to the troops in the early days of Hong Kong, and, as in Algiers, the greatest amount of fever did not correspond with the greatest amount of soil disturbance, a point indispensable if the two things are to stand in the relation of cause and effect, while in all cases the men were living under conditions of great exposure and badly housed There are, then, three distinct classes in which all the cases where soil disturbance has been accused of causing malarial fever may be placed 1 Where the disturbance of the soil has interfered with subsoil drainage and caused a marsh or allied condition 2 Where the outbreaks of fever have been coincident with works executed in the soil but not due to the simple disturbance of the soil 3 Where malarial fever has been caused by a specific poison, released and brought into evidence by the breaking up of the soil Of course falling into the first category there are plenty but the author says it is a misnomer to speak of them as caused by soil disturbance Of the second class there are also plenty they belong to the type of a gentleman contracting the fever by digging in his garden These cases are valueless That malarial fever is caused in the manner specified in the third category there is not sufficient evidence to show

Ambulance Work in London—Dr Heaton Howard editor of *First Aid* and the editor of *The Critic* (both of London) are making a struggle for a sensible and up to date ambulance service The "little ward on wheels,' as it is found in Paris Vienna and several American cities is unknown to London except so far as the provision that has been made by the Metropolitan Asylum Board for the transportation of the infectious sick. The editor of *First Aid* advocates the establishment of several stations, having telephone connection and supplied with either horse or electric motor wagons, having a surgeon and supplies suitable for the 'first aid' of those who fall sick or become injured in the streets 'This kind of service,' says *The Critic*, "is a matter that should come home to every citizen, *for he is, if seized with sudden illness or the victim of* accident, absolutely at the mercy of the first good natured bungler who cares to seize upon him Even if the guarantee of immediate skilled treatment in case of need should cost double the $750,000 estimated as necessary for the preliminary organization, and treble the $200 000 per annum suggested as the cost of maintenance and development I do not think the average ratepayer would grudge the outlay He already pays large sums for reading rooms and museums which he does not always frequent, for parks which he seldom visits, for bands that do not irresistibly attract him, for baths which he does not often enter and many other public purposes, all good in their way, but each intimately affecting a section only of the population. An efficient ambulance service is as necessary as a gas supply or a fire brigade and no one can possibly supply it for himself Thus it becomes a public concern' Another writer advocates an arrangement by means of which horse ambulance wagons are placed at the fire stations and worked by the fire brigade Local conditions as noted, unfavorably affect the adoption of any of the first three methods and the fire brigade, from the nature of its duties, is the most suitable body to undertake the work, the firemen are already trained in the management of horses and in driving rapidly through the streets, the public are also accustomed to clearing the streets to make way for the brigade The duties of the firemen are more intermittent and less onerous than those of the police these duties are much less during the day when accidents are more numerous Their work also trains the firemen to act with more deliberation in an emergency a great desideratum in dealing with an accident when surrounded by a crowd of excited people "Ambulance wagons worked by fire brigades have been in use for some time in the following places among others Sheffield Leeds Leicester Halifax and York and have rendered most satisfactory service The expense which is always a serious consideration in advocating new departures is in this case not very formidable as once the initial expense was accounted for the cost of maintenance would be a very slight addition to the cost of the fire brigade With regard to the powers of the corporation for incurring expense in this connection we may cite the following opinion from a report of the chief constable of Liverpool on the police ambulance system recently inaugurated in that city "It may be well in conclusion to mention that the corporation have been advised that they were legally entitled to take the [illegible] they have d[illegible] asmuch as the removal of the sick and injured persons from the streets is an important portion of the duty of the police, and that charges for instruction to render them efficient may properly be met the authorities ''

Camps on the Pacific Coast—Sanitary and insanitary conditions at Camps Alger, Thomas, Tampa, and other places in the East, have become familiar by newspaper description and by testimony before the Commission on the Conduct of the War Department, but information from the Pacific Coast has rarely appeared in Eastern journals The following from the annual report of Gen H C Merriam, by Lieut Col I V D Middleton, deputy surgeon general, is of interest in showing medical conditions on the west side of the Continent

The first camp on the Presidio Reservation (Camp Merriam) was well located as to soil, drainage and water supply, the latter coming from one of the city mains and conducted by pipes to every part of the camp The ground gradually slopes toward the bay and the drainage is excellent The remaining troops of the expedition are now camped on this location The weather during the early part of May was moist and chilly, unusually so, and the troops, being unaccustomed to camp life, soon contracted ailments incident to exposure, such as nasal and bronchial catarrh, diarrhea, etc , of which there were many cases Unfortunately, the Oregon Volunteers brought with them a few cases of measles , these were isolated by being sent to the Presidio and Fort Mason post hospitals, but the disease spread quite rapidly and many cases were treated in the regimental tent hospitals, in consequence of which pneumonia supervened in a few cases, which were sent to the Presidio post hospital As regiments were arriving daily, it was found necessary to secure a larger camping ground, and I learned that the military authorities had, without consultation with any officer of the Medical Department as to hygienic conditions, selected the race track and the sand dunes adjoining, designating the encampment as Camp Merritt It was an objectionable location, on account of its exposure to the wind and fog, its bad drainage and the constant drifting of the sand upon which the tents were pitched The sinks were improperly located, being on a line with the company kitchens, and I may here remark that the Medical Department had nothing to do with this arrangement The sand in the vicinity of the kitchens and around the tents, through the carelessness of the men, soon became polluted and was blown into the kitchens and mess tents Soldiers were permitted to come to the city by the hundred every day, and many of them would return to camp late at night, some under the influence of liquor, riding on the "dummy" of the cable cars, without overcoats and with their blouses unbuttoned A large number of men of each regiment reported at sick call every morning, and a large proportion of them were admitted to the sick report, the prevailing ailments being nasal and bronchial irritation due to exposure to cold, and errors of digestion, diarrhea, etc , due to imprudence in eating and drinking The Tennessee regiment brought measles to this camp, and it spread very rapidly During the months of June, July and August, the reports on file show 660 cases of measles This disease complicated most of the serious cases of pneumonia, numbering 145, from which 43 died Typhoid fever made its appearance during the latter part of May, and 121 cases, with 13 deaths, are recorded for the months of June, July and August The water was carefully examined from time to time, but was found to contain no bacteria of a pathogenic nature, the disease being propagated in all probability by the contamination of the food by the drifting of polluted sand, and may have been carried into the kitchens and tents by the flies that swarmed in and around the sinks, kitchens and tents Thirty six cases of cerebrospinal meningitis also occurred, with sixteen deaths

The division hospital was established at Camp Merritt June 2, by Lieut Col Henry Lippincott A sufficient number of hospital tents, placed end to end, in pairs, were pitched on the sandy plain to accommodate 100 patients, but soon its capacity was increased for 200, and finally 300 patients Major W O Owen, U S V , was in charge of this hospital As serious cases of pneumonia and typhoid fever could not be properly sheltered and afforded an equable temperature under canvas, they were sent to the Marine and French Hospitals, close by, where they received excellent attention under the direction of Dr James Gassaway, United States Marine Hospital Service and of the superintendent and physicians of the last named hospital, due acknowledgement of their courtesy and valuable assistance having been expressed in letters to them by Dr Owen and myself On several occasions I urged the abandonment of the camp, and on July 21 the division hospital was removed to the new barracks at Presidio, which were vacated by the troops of the garrison in order to accommodate the hospital Here the patients were placed under far more favorable hygienic conditions than the canvas hospital can possibly afford, and the barracks were soon fitted up with all the comforts and conveniences that would facilitate the recovery of the sick Wire netting and shades were put in the windows and all articles required for making it a first class hospital were purchased and put in place Thirty female nurses were employed, a sufficient number of physicians were contracted with, good cooks were obtained and, under the management of Major W S H Matthews of the Fifty first Iowa Vols , who has proved himself to be a good administrative officer, the hospital has been put in the very best order and condition obtainable under the circumstances, as the buildings were not constructed for hospital purposes and the ventilation is by no means perfect, the rooms are not of proper size or shape for wards, and the kitchens and mess rooms are too far distant The troops moved from Camp Merritt to the Presidio Reservation (Camp Merriam) in the following order Fifty first Iowa August 1, Twentieth Kansas August 5 First Tennessee August 18, Seventh California August 24, United States Infantry and Oregon Recruits August 27, and this was the final breaking up of Camp Merritt This camp (Merriam) is now in excellent condition by being kept as clean as possible The sinks are at suitable distances, emptied of their contents three times a week, and thoroughly disinfected twice daily , they are unobjectionable and not likely to cause sickness Water is supplied from a city main and carried to every company, where there is a hydrant, the waste water being conducted off by means of drains The cooking has been much improved, attention is given to bathing, and the men, better disciplined, are better able to take care of themselves The sick list has been much diminished

NECROLOGY

T H Huzza, M D , Atlanta, Ga , died in New York December 9, as a result of an operation for appendicitis Dr Huzza was born in St Louis, Sept 12, 1863, and was graduated from the Jefferson Medical College in 1887, later doing special work in the Philadelphia Lying in Charity Hospital, the Philadelphia Obstetrical Infirmary and the Pennsylvania School of Anatomy and Surgery, and was a gynecologist of some repute

C S Hoyt, M D , Canandaigua, N Y , died of pneumonia, December 13 Dr Hoyt was born in Connecticut in 1822, received his degree of M D from the Geneva Medical College, and until the Civil War began practiced in Yates County, N Y He then enlisted in the 126th New York Volunteers, resuming his practice after the war In 1867 he was elected to the Assembly, and in 1868 became Secretary of the New York State Board of Charities, since occupying that position

James Lawrence Tyson, M D , University of Pennsylvania, 1838, died December 10, at his residence, Penllyn, Pa , in his 86th year He was a descendant of the Celebrated Dr Edward Tyson of London, whose descendant, Rinear Tyson, emigrated to Pennsylvania in 1683 Dr Tyson was born in Philadelphia, Nov 19, 1813 In 1854 he was elected professor of medicine and therapeutics in the Philadelphia College of Medicine For several years he was physician to the Wills Eye Hospital He was one of the founders of the Howard Hospital, and for many years one of its physicians While in California he was surgeon in chief of a hospital in the northern gold region He was a member of the Philadelphia College of Physicians before he moved to Montgomery County

Joel Allen, M D , Burlington, Vt , a graduate of the Medical Department of the University of Vermont, Class of 1875, died at his home, December 6, aged 48 years Dr Allen was a member of the Vermont State Medical Society and the Burlington Clinical Society, and attending physician to the Home for Friendless Women and Home for Destitute Children

A S Baldwin, M D , Jacksonville, Fla , died December 8, at the age of 88 years He was born in New York , located in Jacksonville in 1838, and, at the age of 27 years, served as one of the defenders of the State in the Seminole War His early education was secured at Hobart College, Geneva, N Y , from which he later received the degree of M D , in 1838 In 1852 he was chosen to represent his county in the Florida State Legislature, and during the first session secured a charter for the Florida Central Railroad, later becoming president of the company organized In 1858 he became State Senator and, as a member of that body, when the Civil War broke out strenuously opposed secession He was for twenty years meteorologic correspondent for the Smithsonian Institute, the reports being the first scientific exhibition of Florida clinical literature He was also corresponding member of the Boston Natural History Society and a member of the American Scientific Association, and is credited with having organized the first medical society in Florida, the Duval County Medical Society, and in 1873 the Florida State Medical Society, of which he was the first president

DEATHS ABROAD

VON KLAR of Prague, prominent in official circles and in his specialty, the care of the blind, is dead He recently added a kindergarten to the Klar Institute for the Training of the Blind, founded by his father, to which he has devoted his best energies all his life

LAWRENCE B HOFF, M D , died in his 40th year, October 9, of cardiac trouble, in Coast Hospital, Little Bay Ultimo, a suburb of Sydney, New South Wales He was a son of the late Louise Bainbridge and the late Rear Admiral H K Hoff, U S N Dr Hoff was born and brought up in Germantown, Pa He was his father's chief clerk when the Rear Admiral went to Havana in a United States warship several years ago Dr Hoff was a graduate of the University of Pennsylvania and practiced in Germantown In New York City he was at one time librarian of the Twelfth Regiment New York State Militia He went to Australia about five years ago His death only recently became known to his friends through a returned unanswered letter

SOCIETY NEWS

First All Russian Congress of Hydrology and Balneology —This Congress opened in December, at St Petersburg, under the most favorable auspices The government appropriated 18,000 roubles, and members to the number of five hundred were given free first class passage to and from the Congress at any time between November 20 and January 19

Society of Washington Ophthalmologists and Otologists — The December meeting of this society was recently held at the residence of Dr Burnett, Dr J H Bryan, vice president, in the chair Dr Burnett read a paper, reporting a case of double nasal hemianopsia The paper was discussed by Drs Belt and Muncaster Dr Burnett also reported a case of severe injury of the ear, in which he performed a plastic operation, restoring the meatus auditorium externus, which was discussed by Drs Bryan, Suter and Richardson Dr Charles W Richardson read a paper on "Thrombsosis of the Lateral Sinus," and reported a case upon which he had operated, ligating the jugular The paper was discussed by Drs Bryan, Burnett and J J Richardson

MISCELLANY

Examining Michigan Recruits —"Don't this old injury hurt you when you attempt to run?" asked the examing surgeon of a candidate for enlistment "Course it does If yer looking for soldiers what's goin' to run, just count me out "—*Detroit Free Press*

Sanatorium and Sanitarium —Some uncertainty apparently exists as to the use and significance of these two words A "sanatorium" is a place to which the sick go to get well The word is derived from the Latin, *sanare*, to heal 'Sanitarium" is derived from the Latin, *sanitas*, health, and is considered by lexicographers an improper form for "sanatorium " There is no sound reason in having two words so nearly alike to convey the same idea, particularly when one exists without the sanction of authority There is, therefore, good ground for preferring the word "sanatorium" to its counterfeit "sanitarium "

Neurofibroma —Menke reports a case of a large plexiform neurofibroma above the iliac crest, with others smaller on the neck and trunk The patient was a vigorous young man, and nothing to explain the etiology was discovered The head was free —*Vienna Klin Rund* , November 27

Don't Forget General Wood —The *Sample Bag* asks "Why did we beat Spain?" Because we are as strong as Sampson, we are as Schley as a fox, we are Miles long, we possess Merritt we are Hobson's choice, what more Dewey want? Only this—after the war is about over, the public in General Wood commit the care of the Cuban cities to a medical officer

Sickness at Manila —A correspondent of the New York *Herald* writes that sickness is on the increase among our troops at Manila, and adds that there is a rigid censorship as to the health conditions of the forces The authorities do not censor private letters, and every man in every regiment may write in a much more alarmist fashion than would the newspaper correspondents, in any event The soldiers must all see the great increase in the sick rate The California regiment, which was the healthiest on the ground up to the time the city fell, has more than 150 men ill now, and has been compelled to secure a hospital of its own There was no more room in the division hospital, which answered all the needs of the Spanish garrison before we came

A Regrettable Omission —The "printer's devil," or some other imp, is responsible for the oversight which led to the omission from the list of the newly elected officers of the American Public Health Association, in our report of the recent meeting of that body at Ottawa, Canada (vide JOURNAL, p 988), of the name of the first vice president for the year 1898 99—Dr Henry Mitchell of Asbury Park, N J , secretary of the State Board of Health of New Jersey, who was nominated for the office by the Advisory Council, without a rival candidate The Association has honored itself by placing in its second office a sanitarian of such recognized merit and a health officer of such indomitable energy

Sporozoa of Carcinoma —Jurgens has succeeded in isolating from the mucus surrounding the neoplasm a micro organism evidently belonging to the Gregarinidæ in a number of cases of cancer of the stomach and one cancer of the bronchi, in which the air passages were occluded, resulting in a collection of several generations of the sporozoa It is much larger than the usual Gregarina, which he explains by the discovery of the fact that the micro organism develops by the conjugation peculiar to this species, the two bodies blending to form a single large one which invades the cell until the shell of the cell, enclosing the micro organism is all that is left of it In this condition it resembles Miescher's tubes and Rainey's bodies, and he queries whether they may not be developed Gregarinidæ Further particulars are given in the *Klin Therap Woch* of November

Picrotoxin —The conclusions of a recent study of the cocculus indicus and picrotoxin sent in to the Paris Académie de Médecine are that it is a dangerous poison, with an almost exclusively bulbar action, extremely slow of absorption and impregnation It is the type of a bulbar convulsive, and has no direct effect upon the muscular fiber The cardiac and respiratory manifestations depend upon the effect produced on medulla, although to this must be added a certain influence of the toxic substance on the nerves of the vegetative life The central influence is also responsible for the salivary and intestinal hypersecretion observed in the dog, and the sudoral salivary and lachrymal hypersecretion in the horse The writers are extremely pessimistic in regard to its application in therapeutics —*Bulletin*, November 15

Ligation of Mesenteric Artery—One of the rarest lesions in a "buffer accident" is a rupture of a branch of one of the mesenteric arteries Such an accident occurred recently to a railway porter and he was admitted in a state of collapse into the London Royal Free Hospital As the collapse seemed to diminish, operation was temporarily postponed, but later, as it was again increasing, it was decided to operate Mr Roughton opened the abdomen and found that one of the vasa intestini tenuis had been torn through about one inch from its origin The distal end was bleeding freely and both ends were tied The peritoneal cavity contained much blood, and the collapse was so extreme that saline transfusion was resorted to during the operation The man has so far gone on well, and as ten days have now elapsed since the operation he will in all probability recover —*Lancet*, October 22

Meager Diet of Porto Rican Peasantry—Dr L Amadeo, a physician resident in Porto Rico has made a careful report on the mental and physical condition of his fellow islander He was well qualified for undertaking the investigation, of which the summarized results were published in the New York journals, for he had both studied and practiced medicine in this country, and, being a Porto Rican by blood and birth, was not likely to see in his people defects that do not exist What he did see was the effect of insufficient nutrition, extending through the *whole* working *class*, i e , through the *whole* class, which, thanks to Spanish tariffs, was forced to live on roots and fruits He implores his new rulers to avoid the murderous policy of their predecessors, and to put within the reach of the toiling thousands in Porto Rico the very food which so horrifies and disgusts the vegetarian monomaniacs Meat, he says, is the remedy for wasted muscles and inactive brains This is science, it is also common sense, but it will raise a howl of anger from the unfortunate people to whom the prohibition of good things seems to be the alternative to its abuse —*New York Times*

Absorption of Medicines in the Stomach—Professor Moritz has been studying this subject with sodium salicylate, potassium iodid and pulverized charcoal administered before, during and after meals, investigating the results with the stomach pump They confirm the results already empirically established, although he was surprised at the rapidity with which water and any much diluted medicine passes out of the fasting stomach A medicine given with milk, soup, wine, oil, etc , leaves the stomach much less rapidly, still slower if taken with the meals and so slowly after a meal that in case of hepatic colic, etc , occurring after a meal, morphin should be administered subcutaneously or per rectum Fluids like soup, milk, oil, etc , cause a secretion of gastric juice and the motor function of the stomach is proportionately less as the secreting function is active He confirms the benefits of a mucilaginous vehicle in protecting not only the stomach but the intestines from irritation, recommending that digitalis be thus administered, and mentions as progress Sahli's "glutoid capsules" made of gelatin hardened formaldehyde, practically insoluble in the gastric juice but readily dissolved by the pancreatic secretions —*Munich Méd Woch* , November 29

Suture of Auricle of the Heart—E Giordano reports the first case of suture of the left auricle, for a wound in which the knife had passed through the entire thickness of the wall The condition of the patient rendered immediate intervention imperative and it was impossible to take all the desirable antiseptic precautions The condition was satisfactory for a few days, but bloody pus then appeared in the drain and death ensued in two weeks The query whether to lose time preparing the patient for the operation, or to take the chances of infection, is a vital one in such cases The necropsy showed that the patient had recovered from the wound in his heart, that his purulent pleurisy was also on the way to recovery, and that he succumbed to a later complication, abscesses in his right lung The wounds in the auricle and in the pericardium were perfectly closed with a linear cicatrix Farina of Rome sutured the right ventricle for a wound 5 to 6 millimeters in length, in 1896 The patient succumbed to broncho pneumonia, but the heart wound was found cicatrized Rehn's case was cured, also one reported by Parozzani, and another by Parlavecchio Others that did not result in recovery are reported by Parozzani, Cappelen, Nicolai, Ninni, and Longo —*Presse Méd* , *Riforma méd* , September 9 and 10

Ankylostomum Duodenale—About two years ago Drs Ginn and Jacoby published (*Berlin Klin Woch*) certain observations which they had made on the presence of the *ankylostomum duodenale* and other parasites in the intestines of natives of India, and they arrived at two main conclusions 1, when the ankylostomum has gained a hold in a native tribe in India, it spreads with great rapidity among the members of the tribe, and 2, it appears very probable that a person may have the ankylostoma in his intestine without being the subject of ankylostomiasis In the summer of this year, 1898, the same observers had opportunities of examining the stools of several natives Of the feces of eight natives of Ceylon, in eight the ova of ankylostomum duodenale were found, in seven those of trichocephalus dispar, and in six those of the ascaris In the stools of six natives of Madras in six were observed the ova of ankylostomum duodenale, in six those of trichocephalus dispar, and in five those of ascaris, and in two of the Madras natives the larvæ of anguillula intestinalis appeared The first of the above proportions was therefore corroborated by the new investigations As supporting the second of their conclusions, Drs Ginn and Jacoby found that a large number of Asiatics and Africans in whose stools the ova of the ankylostomum were found exhibited no signs of anemia Among certain tribes there seemed to exist a certain immunity from ankylostomiasis, but this immunity was limited in its range and by no means absolute in degree —London *Lancet*, November 19

Not Bound to Undergo Serious Operation—Assuming that the injury complained of in the case of Kehoe against the Allentown & Lehigh Valley Traction Company was the result of a certain accident, the company, which was sued for damages, urged, in defense, that the injury was not of a permanent character, but one that could quickly and permanently be cured by proper medical treatment, namely, by a simple surgical operation, attended with no pain (if anesthetics were used or the patient etherized), and free from serious danger However, in view of the evidence relating to the subject, the supreme court of Pennsylvania declares, Oct 17, 1898, that there can not be any doubt of the correctness of the following instructions given the jury 1 That, if they believed that the surgical operation, necessary to relieve or cure the plaintiff, was a serious or critic operation, necessarily attended with some risk of failure, then the plaintiff was not bound in law to undergo a serious and critic surgical operation, which would necessarily be attended with some risk of failure, and 2, that if they believed that such operation was dangerous and critic, and attended with risk of failure, she was privileged to exercise the liberty of choice, under such circumstances, as to whether suffering and feebleness, resulting from the injury, would be endured, or whether the surgeon's knife should be used

Communications to Veterinarians Not Privileged—A veterinary surgeon was asked what the owner of a certain horse had said as to his visiting the horse, and what the report was that had been received from the keeper as to the condition of the horse To these questions the owner objected, as calling for privileged communications, and the objections were sustained by the trial court, as being in conflict with section 3643 of the Iowa Code of 1873, prohibiting a disclosure of professional communications. The owner's counsel said in argument, "We have no case exactly in point to cite." And the supreme court of Iowa says, Hendershott vs Western Union Telegraph Company, Oct 22, 1898, that it thinks that none can be found to sustain the ruling. It holds that the reasons upon which the section referred to is based have no application whatever to a case of this character. Communications, it maintains, are privileged in certain cases for the reason that full and free communication in those cases is necessary and to be encouraged, but that these reasons do not apply to veterinary surgeons called to treat animals.

Donations for Medical Education—The last report of the Board of Regents of New York summarizes the evidences of improvement in medical teaching in that State. There has been a remarkable increase in the material resources and property among the medical colleges and an increase, since 1898, of more than 100 per cent in total property, and of nearly 100 per cent in annual receipts. Since that time this great increase has grown still larger, especially in Greater New York. The University and Bellevue Hospital Medical College has the fine new building erected in 1897 by the faculty of the Bellevue Hospital Medical College. The College of Physicians and Surgeons, with the Vanderbilt Clinic, doubled in size by the additional gift, in 1895, of $350,000, and the Sloan Maternity Hospital, greatly enlarged in 1897, now make the most complete plant in existence for scientific medical education. The Polhemus Memorial Clinic has been completed and thoroughly equipped since the last report, providing accommodations for the out-patient and medical school departments of the Long Island College Hospital. The intention of Mrs Polhemus, that everything pertaining to the construction and equipment of this building should be of the most approved type, has certainly been carried out. The New York Medical College and Hospital for Women has just opened its handsome new building in West One Hundred and First Street. Last, but not least, $1,500,000, the greatest amount ever devoted by one person at one time to purposes of medical instruction, has just been given to build, equip and endow the new medical department of Cornell University in New York City.

Unlawful Practice—By the Nebraska statute any person not possessing the prescribed qualifications for the practice of medicine, surgery or obstetrics, or any person who has not complied with the provisions of the law relating thereto, who shall engage in the practice of medicine, surgery or obstetrics, or any of the branches thereof, shall be deemed guilty of a misdemeanor, etc. Any person shall be regarded as practicing medicine within the meaning of this statute who shall operate or profess to heal or prescribe for or otherwise treat any physical or mental ailment of another. But nothing therein is to be construed to prohibit gratuitous services in cases of emergency, or to apply to commissioned surgeons in the United States army and navy, or to nurses in their legitimate occupations, or to the administration of ordinary household remedies. Now, under this statute, the supreme court of Nebraska holds, in State vs Paul, Oct 20, 1898, any person within the exceptions prescribed, and not having complied with the requirements as to certificate and registration, who shall, for a remuneration, operate on, profess to heal, or prescribe for, or otherwise treat any physical or mental ailment of another, is liable to the penalties prescribed, although the operations were performed, and the medicines were administered and given, under the direction and charge of a licensed physician and surgeon. To make one liable to the penalties of the statute, the court further insists, it is not essential that at or before the treatment of the sick, he represented, claimed, or advertised himself to be a regular, legal or competent practitioner of medicine.

Discovery of a Roman Hospital—Advices from Geneva to Paris are that the remains of a Roman hospital have just been discovered in Baden, in the Canton of Argovie, Switzerland. The ruins, both from an architectural and an antiquarian point of view, are said to be valuable and interesting, since they are the first traces of anything proving the existence of hospital arrangements among the Romans. Neither the remains of Pompeii nor Tungad have led antiquarians to suppose that the Romans ever devoted a building to the exclusive use of invalids. No Latin or Greek author the Geneva press asserts, has left a description of such an establishment. Hippocrates, alone, in a passage which is very short and rather obscure, alludes to diseases which were treated in the Temple of Esculapius, but it is thought to be impossible to decide therefrom whether there were any places near the sanctuary specially set apart for treating diseases. The arrangement of the ruined structures at Baden leave no doubt as to the use for which they were built. The edifice is composed of fourteen small rooms, in which a large number of medical and surgical instruments, tweezers, tubes, knives for spreading plasters, spoons, measure glasses, cauterizers, ointment boxes, and the like were found. Antiquarians of Geneva who have visited the ruins assert that everything goes to show that this was the site of the hospital of the Fourth and Fifth Legions, which had their winter quarters in Baden.

Paternal Hereditary Syphilis—An interesting lecture by Professor Fournier, on the subject of preventive treatment of paternal hereditary syphilis is reported in the *Semaine Méd* of November 30, in which he states that when a fetus is threatened with paternal syphilis, the mother being healthy, it can be protected by specific treatment of the mother during her pregnancy, if commenced very early. After the fifth month it is useless. The method has been successful in such a large number of cases that the physician should consider it his duty to inaugurate it under such circumstances, even if he has to deceive the mother to conceal the father's condition. The mother in law is usually the worst feature of the case, he adds. Mercury should be the base of the treatment, but as the dosing is not for the mother, but for the fetus, minute doses are sufficient, if continued throughout the entire pregnancy. Sublimate sometimes affects the stomach in pills, and disgusts by its odor in a solution. He prefers pills of mercurous iodid, under the circumstances, with a daily dose of five centigrams, or even of twenty five milligrams, suspending treatment for ten days after twenty days of treatment to rest the stomach, continuing it thus to the end of the pregnancy. Pinard prefers mercuric iodid as follows: Mercuric iodid 1 gm, potassium iodid 10 gm, aq dest, or simple syrup, 250 gm, peppermint water 50 gm. Daily dose, two tablespoons of the solution or two desert spoons of the syrup, in the middle of the meal. Barthélemy persuades the mother that an injection of serum once a month would benefit her, and thus injects grey oil, every thirty days. No unfavorable effects of this treatment of a healthy woman have been observed by any one. Pinard continues the treatment without interruptions. Others alternate the mercury with potassium iodid. Each method has been successful, and it is usually necessary to conform to individual circumstances in each case.

Acetylene Worry—The *Independent* has a readable paper on the above title, minifying the causes for anxiety about the coming new illuminant, acetylene gas. The writer points out the great worriment that was caused about sixty six years ago over the proposed introduction of olefiant gas. The timorous people of Philadelphia went so far as to publicly object to the disuse of oil in public lighting. They could not see what should prevent the flame at the jet from backing through the pipes to the house meter or even to the mains and the works' gasometer itself. Direful predictions were also made [illegible]

Stephenson proposed the locomotive The canal and stage proprietors did not wish to be disturbed, and timidity also opposed progress Stephenson had to talk of a very low speed, not greatly beyond that of the horse, or his bill would have failed in Parliament, but when an opponent in committee declared that even the cows would be driven mad by the glare of the red hot engine chimney, he could not refrain from asking how they would know the chimney was not red with paint instead of heat Only a few years ago the bicycle was opposed because horses (as was asserted) could not bear the sight of it, and if the "toy" was to be allowed in the streets every other vehicle must go And now there is some trouble over acetylene gas and the carbid from which it is obtained There are potencies of danger in both, and in what is there not? There is a choice in generators, there are ways of treating carbid, that substance is mischievous only as water touches it, and its affinity for moisture is so intense that it must be excluded from air or it slowly spoils, keep it in moderate quantities and securely sealed, and it brings no fire risk The tallow dip displaced the pine knot, whale oil displaced the tallow dip, "fluid" succeeded whale oil, kerosene, gas and electricity have followed, in each step and each illuminant its own hazards, and each disturbing the timid It is therefore inconsistent, and it will be futile, to resist acetylene Underwriting must accept it in its turn and deal with it rationally

Revocation of Certificates —The Iowa statute designed to regulate the practice of medicine and surgery in that State provides for the issuing by the State Board of Medical Examiners of certificates, and authorizes the Board to revoke a certificate whose holder shall have been convicted of a felony committed in the practice of his profession or in connection therewith, or "for palpable evidence of incompetency" The statute does not prescribe the practice to be followed in cases instituted for the revocation of certificates It may, when practicable, says the supreme court of Iowa, commenting on this in Traer vs State Board of Medical Examiners, Oct 24, 1898, follow somewhat the methods of the courts, yet, from the nature of the Board and the character of the duties it is required to perform, a more flexible practice than that allowable in the court must, of necessity, be followed in many cases The person whose right it is to hold a certificate which has been issued to him should be given a fair opportunity to meet the charges and evidence against him What would be 'palpable evidence of incompetency," within the meaning of the statute, the supreme court further says, is not easy to define, although it must be sufficient to make plain and obvious the incompetency of the accused to practice as a physician and surgeon In the absence of objection, it is of the opinion that evidence which tends to prove or disprove the competency of the accused may be considered, as affidavits, etc, even though it is not the best evidence which could be produced for that purpose The provision of the statute which gives to the president or any member of the Board authority to administer oaths and take testimony in matters relating to their duties as examiners, if it applies to the revocation of certificates, the court also holds, is not exclusive, and does not prevent the consideration by the Board of Evidence not so taken Finally, the court declares within the jurisdiction of the board to determine the competent and sufficiency of the evidence submitted to it, and if it errs in admitting evidence or in giving to it undue weight, the error can not be corrected by certiorari proceedings

Gleanings —Large piece of omentum torn out by insane woman after opening her own abdomen exhibited recently before the Paris Soc de Chirurgie Tumefaction of the submaxillary glands in one patient and a dermatitis in another from treatment with potassium iodid, reported by Danlos Case of severe diarrhea with incarcerated inguinal hernia, persisting until after the hernia was operated on Case of chronic primary osteomyelitis of the spine reported by in woman of 27 years (*Deutsche Med Woch*, Novembe

Fatal osteomyelitis caused by scraps of cloth from shot wound twenty seven years previously The scrap evidently been encapsulated and the encapsulation broke a violent muscular exertion (*Deutsche Mil Ztft*, July) Ducrey's bacillus has been successfully isolated from chancres, resown and inoculated in man by Langlet, who vented a special medium for the purpose (*Presse Méd*, Nove ber 12) Neugenbauer observed a fourteen weeks' ex uterine embryo extracted by vaginal celiotomy and embry omy in which, when the breast was opened, the heart was fo still rhythmically pulsating, and this automatic action c tinued for three hours (*Cbl f Gyn*, No 47) Case eczema of the lips caused by salol in a toothbrush (*Deuts Med Woch*, December 1) Taillens reports fifty fo relapses in 234 herniotomies He finds that there is least da ger of a relapse after umbilic and greatest after femoral hernias Also that suture of the pillars protects better than the Bassini, against relapses The cases have been followed since 1890–94 Partial resection of the cecum for localized tuberculous ulcerations Recovery Resection of the small intestine and surrounding omentum for chronic tuberculosis adherences simulating a tumor Recovery (*Cbl f Chir*, December 3)

American Hypnotic Grasses —The *New York Medical Journal*, November 12, refers to certain grasses of the genus *Stipa* that appear to have medicinal or poisonous properties, Some of the American species, *Stipa viridula*, found in some parts of the Southern States, especially in New Mexico and Texas, have recently been made the subject of investigation by Dr A Lyckhart Gillespie of Edinburgh He was led to make the examination by information as to the unpleasant and alarmi effects of the grass, locally termed "sleepy grass," on hors The cowboys, he says, driving herds of cattle from one place another over elevated prairie regions, are often astonished waking in the morning, to find their horses, and perhaps th cattle also, unfit to proceed on the journey "The travele horse," says Dr Gillespie, "is a pitiable object He sta with head and tail drooping, his form quivering, stream sweat pouring down his sides, respiratory movements hur and panting, his heart's action increased in force, judging the evidence of palpation, while his excretion of urine is m edly increased, with symptoms of irritations and stra accompanying its expulsion" He is incapable of mov and seems about to die, but so far as Dr Gillespie's infor could say, actual death, either in horses or in cattle, i known to have been caused by the grass It seems to ha action on sheep The acute symptoms pass off in abou days, but the general health of the animal is affected for s time Dr Gillespie has found it impracticable thus far to ma a thoroughly satisfactory preparation from the grass for ph macologic experiments A weak mixture of hydrochloric acetic acid and water was found to be the most effective m struum for extracting the substance presumed to contain t active principle, but these acid extracts had to be neutraliz partially before they could be used, and this partial neutra ization precipitated much of the solid matter present Alc holic extracts also were employed The author gives the detai of four experiments, three on frogs and one on a rabbit Th confirmed the accounts of the narcotic and paralyzing actic of the grass, and the animals seemed to be affected with hallucinations and great fright The author also refers to the stat ment of Haeckel that another American species, *Stipa vi brians*, as well as the *Stipa sibirica* of the Russian stepp has a similar action

Toxicologic Relations of the Ptomains —The discovery, in 187 by Selmi, of the first of the postmortem alkaloids revolutic the medico legal operations of the chemist It made the s of detecting vegetable alkaloids a matter of so great acy that, for a time, it was thought it would thenceforth possible to prove poisoning from vegetable alkaloids by s of toxicologic investigations Such an assertion was an ggeration, the toxicologist who would feel himself at a loss he presence of ptomains would be altogether incompetent fact, no special or very characteristic chemic reaction, as , enables us to distinguish the ptomains from vegetable aloids nor is this in any way surprising, as it would be te illogic to wish to establish between the two orders of aloids a difference which nothing can possibly justify, and ich reminds us of the distinctions that were insisted on merly as existing between the two kingdoms, animal and etable The processes of decomposition, splitting up or nthesis, which determine the formation of ptomains are ry certainly of the same order as those by virtue of which the vegetable cells fabricate quinin or strychnia A certain number of the alkaloids most frequently met with in the organism have been equally often met with in vegetables—adenin and exanthin in tea leaves, for instance—and M Pouchet states that there is little doubt on his part that at no distant date a continued alkaloid series will be found passing from the simplest ptomains as hydropyredic bases on to the most complex vegetable alkaloids It is only by chemic reaction and physiologic experimentation taken together that we are enabled to succeed in identifying the alkaloids obtained toxicologically, with any particular vegetable alkaloids No indication, however subtle, should be neglected in the double series of investigations It was in consequence of attention to this, that, in the celebrated process of General Gibboni, Selmi succeeded in proving the innocence of the incriminated—by stablishing the fact that the alkaloid obtained from viscera ubjected to medico legal examination, and which experts leged was Delphinium, on a chemic reaction alone, in reality onsisted of a ptomain which arrested the heart's action at *stole* instead of at *diastole* as in the characteristic action of e Delphinium alkaloid The putrefactive coniain of Lieber ann is distinguishable from the true coniain in that it is ither volatile noi toxic It would be easy to multiply amples of that kind Physiologic experimentation made o comparatively with the isolated products of viscera, and a alkaloids with which the chemic reactions obtained anter po y seem to justify us, in fact, in disposing of any doubts m ought consequently to obtain, under the same experimental co itions, results absolutely identic The methods of physi sh ic experimentation known up to the present time are suffi or tly delicate and exact to enable us to prove or disprove to m rtainty deductions based on chemic analyses alone We m st of necessity hold that there never can be complete ev o nce of identity supplied by comparative chemic and physio gic examination of two alkaloids, unless they be constituted f one and the same substance This is a fact of experiment hich does not admit of dispute —*The Scalpel*, October

The Brunette Peoples of Europe—Sergi has given in *Science Progress*, the results of his study of the brunette races and heir migrations to the Mediterranean belt To his mind the origin of those races is a question of racial rather than linguistic migration While admitting that Aryan speech among modern and historic peoples throws the burden of proof on anyone who essays to find an origin other than Aryan for those peoples, Sergi makes bold to assume that the race or races with hich Aryan speech originated may have been at all times few in numbers, and may further have been long since extinct, and consequently that all the Aryan speaking races of historic times may have, at one time or another, learned Aryan speech, without acquiring more than a slight tincture of Aryan blood The ground is thus left open for an examination of the question from a point of view primarily anthropologic, and based in the first place on physical, viz, morphologic, criteria of natural kinship between the races to be examined A survey of the whole Mediterranean shore line has led him to the conclusion that its earliest recognizable inhabitants and their descendants, who form the great mass of the present population, belong to a single closely connected group of races, that their earlier home is to be looked for in the former fertile interior of northern Africa, and not improbably in or near the upper valley of the Nile, and that the peninsulas of South Europe and Asia Minor have been peopled thence along several distinct routes which mainly follow the course of the pliocene land bridges, or former land connections The "Mediterranean race," thus described, has the following characteristics common to all its branches The outer complexion is typically brown brown skin, brown eyes, brown hair, abundant and always more or less wavy It is thus equally distinct from the blonde white races which bound it on the north, and from the negro races of Africa Modifications of the brown tint are found in all branches of the race, but are conceived to be due to intermixture either with the earlier aborigines or with subsequent intruders The body is well proportioned, the face oval, the nose rather narrow, the orbits wide and set horizontally, the forehead high and nearly vertic, the cheek bones neither wide nor very high, the face not flattened, but if anything a little prominent in front, the neck long and well rounded, and the features mobile and expressive It is, in fact, the familiar brunette type which everyone recognizes who has traveled to any extent along the Mediterranean Determined by certain types of skull, the "Mediterranean race,' appears, wherever it is found, as a collocation, more or less uniformly complete, of a number of such related types, and from this it is inferred that the race was already composite in the farthest area of origin to which it can be traced This center is placed by Sergi in the upper valley of the Nile, on the ground that here among the Abyssinians, Gallas and Somalis, the characteristic collocations of types are most completely exhibited, the dusky complexion of a large proportion of these races at the present day being discounted, partly by their long continued exposure to a more tropic climate than any other branch of the race, and partly by the certainty of continuous infusion of a negroid strain from the south —*Popular Science News*, November

Columbus and His Medical Advisers – It is said of the first of the voyages of Columbus, that out of his slender company, which all told numbered but 120 souls, there were two physicians, Master Alonzo, on board the caraval *Santa Maria*, and Master Juan, on board the *Pinta* When Columbus returned to Spain, the last named officer remained behind, at Fort Navidad, and made one of the thirty eight victims who were massacred by the natives of San Domingo The principal medical officer of the second expedition, which consisted of 1500 men, and sailed from Cadiz in the month of September, 1493, was Dr Diego Alvarez Chanca of Seville, physician in ordinary to the King and Queen of Spain In a report addressed to Ferdinand, Columbus referred *to this officer in the following flattering terms* "I make a point of directing the attention of your Highness to the never ending work wherewith Dr Chanca is overwhelmed, in consequence of the heavy sick roll, together with the dearth of provisions, but in spite of all difficulties he evinces the utmost zeal in everything that concerns his art Your Highness having left me free to fix the amount of his remuneration (although it is perfectly certain that neither I nor anyone else in my position could give him a sum even approaching what he would gain on land) I have opened for him an annual credit of 50 000 maravedis ' Dr Chanca is given the credit of having cured Columbus of a malignant fever which had brought him to death s door, and he is also said to have been the first person to write a description of the new world his contribution taking the form of a report to the Municipal Council of Seville On his return to Spain he produced h

Cincinnati

A Timely Gift —The University of Cincinnati, of which the Ohio Medical College is the medical department, has recently been the recipient of a most valuable library of books from Mr William A Proctor Mr Proctor purchased outright "The Robert Clarke Collection" of over six thousand volumes, covering a large variety of subjects, and which is estimated to be worth more than $100,000 The collection was given practically without condition It is a most timely gift, as the new library building donated by Van Wormer will soon be up, and this gift will doubtless stimulate others to contribute Indeed, in a discussion of the Board, convened to take action on Mr Proctor's magnificent donation, several enthusiastic members spoke freely of large gifts of books to be made in the near future

Smallpox —An epidemic of smallpox recently broke out in Wyoming, but a few miles from Cincinnati Dr Probst, secretary of the Ohio State Board of Health, and Dr Byron Stanton, Cincinnati member, diagnosed the cases as smallpox, however, of a very mild type It was decided by these officials, in consultation with the local health officer, that a general quarantine would be disastrous to business interests, so that a local quarantine of the districts and houses to which the disease has been confined, preventing ingress and egress of all who had been exposed, was substituted As regards Cincinnati, Health Officer Tenney directed a general vaccination among school children in both the common and parochial schools, all who are unable to afford the expense to be vaccinated by the district physicians, free of charge It is supposed that the contagion was conveyed from the cases at Loveland

Dr Percy Ashburn successfully passed the examination for assistant-surgeon, U S A, and was one of three successful candidates in a class of twenty five

Louisville

Kentucky School of Medicine —Some weeks ago it was noticed in these columns that Judge Barker had granted Drs Woody and Kelly, respectively dean and professor in the Kentucky School of Medicine, an injunction restraining Drs Cochran and Boyd *from claiming to be professors in the* school, and Dr W H Wathen from claiming to be dean At a meeting of the Board of Regents of the College, held a short time before, it had been decided that Drs Woody and Kelly should be removed, they at once took this action and elected Drs Cochran and Boyd in their places and Dr Wathen as dean to succeed Dr Woody Because of the fact that Judge Miller, before whom the case was docketed, had been an attorney for Dr Wathen, and his law partners were at present his attorneys, Drs Woody and Kelley asked that he not hear the case and through their attorney attempted to swear him off the bench He refused to vacate the bench, and the case as to whether the injunction should be dissolved or not was submitted on briefs, and he has just handed down his opinion, which is a voluminous one He dissolves the injunction granted Drs Woody and Kelly, and dismisses their petition The attorney for Drs Woody and Kelly at once filed a motion of appeal, and Judge Miller will hear an argument as to whether the injunction shall be continued in force pending the appeal The charter of the Kentucky School conferred upon the Board of Regents the power to remove professors The plaintiffs claimed that by an amendment of March 25, 1886, the Legislature modified this power to the extent of requiring a majority of the members of the faculty to request the removal That amendment also named the professors of the school, among them being Drs Woody and Kelly On August 1, last as above mentioned, the Board of Regents, without the action of the faculty, removed Drs Woody and Kelly from their professorships, and elected Dr Wathen as dean The latter's claim to a professorship was not questioned, only his claim to being dean Judge Miller held that the amendment of 1886 was not accepted by the Kentucky School of Medicine and was of no effect, and that the Board of Regents had acted within the powers conferred by the original charter

Dentists —The Falls City Dental Club and the Louisville Odontological Society held their first joint meeting on December 10 at the building of the Louisville College of Dentistry About fifty five members of the two organizations were in attendance A number of papers were read and at the conclusion an enjoyable banquet was given The officers of the two organizations were as follows Odontological Society, J W Clark, president, P R Feigel, vice president, F J Gardner, secretary treasurer Dental Club C G Edwards, president, E M Kettig, vice president, C K Runyon, secretary treasurer

THE PUBLIC SERVICE

Movements of Army Medical Officers —To Manila, P I Lieut Irving W Rand, asst surgeon U S A, from Ft Duchesne, Utah

To military posts To Columbus Bks Ohio, Capt Jefferson D Poindexter, asst surgeon U S A, from Ft Hamilton N Y, to Jefferson Bks, Mo Acting Asst Surgeon Llewellyn P Williamson from St Louis, Mo, to Ft Riley Kan Acting Asst Surgeon F A Disney from Washington D C to Ft Sam Houston Texas, Major Charles L Heizmann, surgeon U S A, from Ft Adams, R I

To regiments Lieut Leigh A Fuller asst surgeon U S A to the Second U S Artillery at Savanah Ga Acting Asst Surgeons Elmer Anderson Dean and Arthur W Smith to the Third U S Infantry at Ft Snelling, Minn from the general hospital at Ft Thomas, Ky, Acting Asst Surgeon A M Fernandez de Ybarra to the Third U S Vol Engineers at Tampa Fla Acting Asst Surgeon W H Spiller to the U S transport *Mohawk* at Bath, Maine

To general hospitals Acting Asst Surgeon J Herbert from Washington D C to the hospital at Ft McPherson Ga

To mustering out duty Acting Asst Surgeon Matthew Leepere from the John Blair Gibbs hospital Lexington Ky for duty in that city

To special service Capt Thomas U Raymond asst surgeon U S A, as superintendent Army transportation service at San Francisco, Cal

Leave granted or extended Major David C Peyton brigade surgeon Vols from Philadelphia Pa Capt Benjamin L Ten Eyck, asst surgeon U S A from Ft Riley Kan, and Acting Asst Surgeon Azel Ames from Porto Rico

Sick leave granted or extended Major Philip G Wales brigade surgeon Vols Major H Wells, surgeon Second Arkansas Infantry and Acting Asst Surgeon Henry R Carter

Honorably discharged Major R Emmit Griffin chief surgeon Vols

Resignation revoked Lieut John W Cox, asst surgeon Sixth U S Vol Infantry

Retired from active service Lieut Col William H Gardner, deputy Surgeon General U S A after thirty years' service

Contract annulled Acting Asst Surgeon Donald Maclean, Jr, of Detroit Mich

CHANGE OF ADDRESS

Burkhart, L from 582 to 1134 South Meridian St, Indianapolis, Ind
Cale G W from Pittsburg, Kans to Springfield, Mo
Hanley J J from Boston to Rock Island Mass
Jackson, G E from Wheaton to Chatfield Minn
Jordan A from Gaines Mill to 117 Broad St, Richmond, Va
Knapp, M S, from Fenton to Flint Mich
Kengla L A from 1303½ Polk to 1121 Sutter St, San Francisco, Cal
Lamb, D H, from Owosso, Mich to Fort Myer Va
Mereness H D from Carnarvon to Thompson Ia
Miracle W T from Long Creek to Richland Ore
Richards, C from 321 Belmont to 209 Prospect St Fall River, Mass
Sheddan W K, from Williamsport to Columbia Tenn
Smith, H H from Beatrice to San Diego, Calif
Thrailkill, G H, from Central City Colo, to Galena, Kans

LETTERS RECEIVED

American Therapeutic Co (2) New York City, Aldrich W H, Mar boro, N H Ayer & Son N W (2) *Philadelphia Pa*

Baldessarelli P San Antonio, Tex Burr, C B, Flint Mich Bische & Co, New York N Y

Carson A Elliott Ia

Dewey C R, Coloma Mich Dios Chemical Co, St Louis, Mo, Davol Rubber Co, Providence, R I Denkinger, J A, Boston Mass

Erwin J J Cleveland, Ohio, Erwin, A J, Mansfield, Ohio Edison Mfg Co New York N Y

Fort I A North Platte Neb Farwell & Rhines Watertown N Y,

Gilpin Langdon & Co, Baltimore Md, Goodrich Co The B F, Akron Ohio Green Dr E M Louisville Ky

Hicks Wm, New York N Y Hyde Geo B Silao, Mex Hill Edgar A, Chicago Ill Huber Frank Brooklyn N Y Hall & Co N C, New York N Y Hull & Co W H H, New York N Y, Hummel, A L Advertising Agency, New York N Y

Jelks, J T Hot Springs Ark

Kress & Owen Co New York, N Y, Kell, J B, Limaville Ohio

Lord & Thomas Chicago Ill, Lautenbach L J Philadelphia Pa Leo Elmer New York N Y, Lilly & Co, Eli Indianapolis Ind

Meyer & Co C New York N Y Merrell Chemical Co W S, Cincinnati Ohio Martin J W Unionport Ohio, Maltine Mfg Co New York, N Y Monthly Retrospect of Medicine and Pharmacy Philadelphia, Pa Malt-Diastase Co New York N Y Mariani & Co New York, N Y McKenzie, C D Sabina Ohio Mellin's Food Co Boston Mass

Norwich Pharmacal Co Norwich, N Y Negelspach, Otto, Holmesville Ohio

Owens J M, Somerset Ky Osborne J W Dyersville, Iowa Osborn, O O Chicago Ill

Peacock Chemical Co, St Louis Mo Phenique Chemical Co St Louis Mo Parke Davis & Co (2) Detroit Mich Peck H H, Chicago Ill Pope Manufacturing Co Hartford Conn

Rorick E H Athens Ohio Rea E H Irondale Ohio Robinson L A Glenwood Springs Colo Rumford Chemical Works Providence R I

Saunders N J Cawker City Kans

Tucker C F Syracuse N Y

Viskolein Company New York N Y

Williams Co The J B Glastonbury Conn Wampole & Co, H K, Philadelphia Pa Woldert A, Philadelphia, Pa Wardner H, La Porte Ind Weeks Drug and Chemical Co Jackson Mich Wells, W S Tiffin Ohio Western Medical Supply Co Chicago Ill